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ABSTRACT

Fire protection in rural Alaskan communities depends on individual home fire prevention and protection rather than on the services offered by a centralized fire department. Even when help is summoned to extinguish a blaze, aid does not come in the form of a cadre of highly trained firefighters; it comes instead from whomever happens to be in the area. In order to control and extinguish a fire in its early stages, citizens must have adequate warning that a fire has begun in a home and proper equipment readily at hand. This means smoke detection devices installed in all living units, as well as fire extinguishers placed in each home in the community. In the summertime, communities near a river or sea may utilize these water sources with portable fire pumps, hose and nozzles, but in the freezing temperatures of winter only fire extinguishers can be used. This manual on fire protection is divided into three sections. Dealing with firefighting equipment and methods, the first section discusses fire prevention, types of firefighting equipment, firefighting techniques, and care and maintenance of firefighting equipment. Section II explores four state assistance programs, i.e., State Fire Service Training Program and Division of Fire Prevention. The final section includes lists of fire equipment supply distributors, sample forms and applications, and audio-visual materials. The list of audio-visual materials includes synopses of 47 training films available from the Alaskan Department of Public Safety. (Author)

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Fire Protection

FOR RURAL COMMUNITIES

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ALASKA DEPARTMENT OF EDUCATION
FIRE SERVICE TRAINING PROGRAM

1978

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FIRE PROTECTION

FOR RURAL COMMUNITIES

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FIRE PROTECTION FOR RURAL COMMUNITIES

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SECTION I
FIREFIGHTING EQUIPMENT AND METHODS

INTRODUCTION

Fire protection in rural Alaskan communities generally depends on individual home protection rather than on the protection offered by a centralized fire department. When a house catches fire, those nearest the building respond to the call for help, not an organized body of firefighters. This standard of protection exists in many small rural villages which have neither the financial resources nor sufficiently trained personnel to support a regular fire department. The fire protection problem is further complicated by seasonal fluctuations in population and climatic and geographical conditions which make the use of conventional firefighting equipment unfeasible. Given this need for strong individual home protection, local citizens must have:

a) adequate warning that a fire has begun in a home, and

b) proper equipment readily at hand

in order to control and extinguish a fire in its early stages. If a fire is not controlled in its early stages, it will almost always result in total loss of the building.

FIRE PREVENTION

Because extinguishing a fire may be difficult in rural areas, constant and effective fire prevention must be practiced by the rural resident. The basic rules of fire prevention are simple, involving good housekeeping practices, safe handling of flammable liquids and gases, control of rubbish accumulations, proper use of electrical installations, control of grass and brush growth adjacent to homes and other structures, and education of all residents, regardless of age or sex, in basic personal responsibility for the prevention of fires. Village councils are urged to establish and pursue a vigorous program of mandatory fire prevention in their communities. When those in authority take the initiative, the individual resident will usually make a conscious effort to prevent the occurrence of fires. Toward this end village councils should avail themselves of the assistance and guidance provided by the Office of the State Fire Marshal within the State Department of Public Safety.

EARLY WARNING

The earlier one learns about a fire the better one's chances are of rescuing threatened lives and successfully controlling and extinguishing the fire. When fires burn undetected over long periods, lives are lost and the opportunity for saving the burning structure is greatly reduced.

Early warning means immediately notifying those persons present in the burning home and then rapidly alerting those individuals relied upon to provide assistance in rescue and extinguishment of the fire.

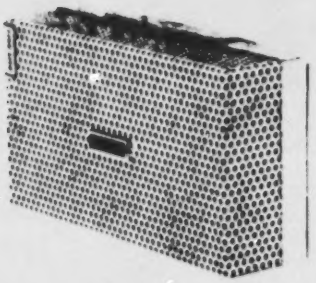
HEAT & SMOKE DETECTION DEVICES FOR THE HOME

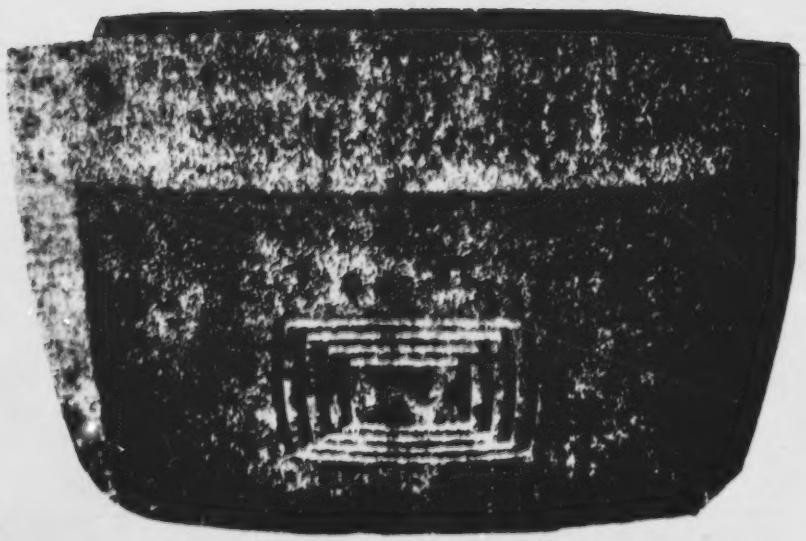
For state law pertaining to heat and smoke detection devices see Exhibit 16, Section III, page 67.

A number of relatively inexpensive heat and/or smoke detection devices have been developed for home use. Some are spring loaded, others use household current and perhaps the most popular operate from self-contained batteries. Most sound a loud warning when activated by the presence of excessive heat or smoke. Whichever type is chosen by a village or an individual, the unit must be of good quality and of an established reliability. To assure this quality and reliability, consider using only those units which have an "UL" rating or are recommended by the State Fire Marshal.

Figure 1 illustrates several typical home heat and smoke detection devices. If properly installed, tested and maintained in accordance with the manufacturers' recommendations, such units provide a means whereby the inhabitants of a house can be warned of a developing fire. A number of rural Alaskan communities have already purchased units of this type for installation on a house-to-house basis. Such an installation program can be of extreme value, especially in rural areas where most fire deaths occur during sleeping hours.

FIGURE 1





COMMUNITY WARNING DEVICES

Communities with electricity available on a 24-hour basis can make good use of conventional fire sirens as a means of alerting the people of a fire or other emergency. Choose a siren with consideration to the amount of current it will draw, the weather resistance of the unit, and its location with relation to the prevailing wind or any structure or obstruction which might affect its audibility.

Village councils may arrange to have a siren mounted on the local school building since most schools enjoy 24-hour electrical capability. A timing device which will allow the siren to blow for a prescribed time can be added for an additional nominal cost. Activating switches should be installed in one or more locations not too distant from the homes to be protected. Possible locations could be the school, the community hall or the powerhouse, if such exists. Community residents must be warned of the emergency nature of the siren so that its value as a warning device is not compromised by indiscriminate blowing.

Manually operated sirens are available for use in villages without electricity. These, however, have a limited range and may not give adequate warning in areas subject to high winds or frequent storms.

FIREFIGHTING EQUIPMENT

EXTINGUISHERS

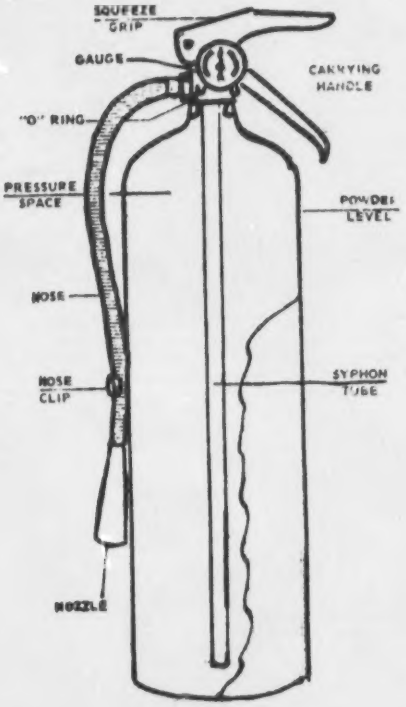
Rural villages are almost always without streets or lanes adequate for motorized fire apparatus, they rarely have water supply systems suitable for providing water for firefighting, nor can they generally utilize water for firefighting at all seasons the year because of climatic conditions. Therefore, the most suitable means of fighting structural fires is through the use of portable fire extinguishers, of a high degree of efficiency, and available in numbers adequate to provide control and extinguishment of all but the most heavily involved fires. For best results such fire extinguishers should be placed in each home in the community with a reserve of 4-6 units kept to provide additional firefighting capability or to replace used units. If an extinguisher has been expended, whether partially or completely, it must be sent to a service agency for cleaning and recharging.

Tests by State Fire Service Training personnel indicate that the most effective kind of fire extinguisher for the rural home use is a dry chemical, multi-purpose extinguisher, preferably of 10 lb. minimum size (see figure 2). "Dry chemical" means that the extinguishers are filled with a powder-like substance, ammonium phosphate, which extinguishes the fire. "Multi-purpose" means that the extinguisher can put out fires in (a) combustible materials such as paper, wood, clothing, etc.; (b) flammable liquids such as oil, gas, kerosene; and (c) electrical short circuits, faulty wiring, etc.

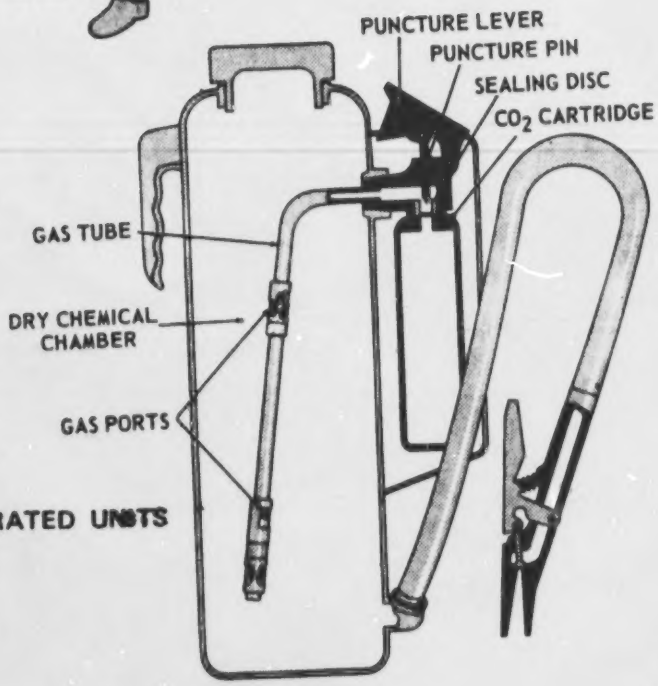
Once a fire has been detected in a home, all residents should be immediately evacuated to insure that no lives are lost. Then, if the fire is still controllable (as it probably would be if detected by an early warning device), it can be extinguished by use of an extinguisher located in the home, or by the coordinated discharge of several units together. A 10 lb. extinguisher should offer enough powder to extinguish fairly advanced fires in a home. This size extinguisher can be handled by able-bodied men or women, provided they have been given adequate training in its use. In rural communities where water is not readily available for firefighting (as in central and northern Alaska in winter) these extinguishers may offer the sole means of extinguishing a fire, large or small. There are two basic kinds of Multi-purpose dry chemical units which both deliver the same amount of firefighting capability. One is the "Stored Pressure" type and the other is "cartridge operated".

FIGURE 2

STORED PRESSURE UNITS



CARTRIDGE OPERATED UNITS



STORED PRESSURE UNITS

The "stored pressure" unit is filled with powder and pressurized with nitrogen or compressed air.

Cost	Retail	$40+ each
	Volume Purchase	$22 to 30 each

Advantages

1. Comparatively low initial cost, much less than cartridge-operated units.

2. A simple gauge located on the unit indicates whether the unit has sufficient pressure to operate.

Disadvantages

1. The units must be recharged from a compressed air or nitrogen tank (which most village communities do not possess), so extinguishers must often be shipped to the nearest urban community for refilling. Cost of refilling is approximately $10 plus shipping. But while the extinguishers are being refilled, the community is left without firefighting equipment, perhaps for an indefinite length of time.

Nitrogen, not compressed air, should be used to charge and recharge the extinguishers. Compressed air goes "flat" in extremely cold temperatures while nitrogen remains constant to -40°F. Although compressed air can be used to refill the extinguishers, the air must be extremely well-filtered. The average air compressor cannot provide sufficiently dry air to refill the stored pressure unit for cold weather capability -- for this reason, the use of compressed air is not recommended in Alaska.

CARTRIDGE OPERATED UNITS

Cost	Retail	$60 to 70 each
	Volume Purchase	$35 to 60 each

Advantages

1. The cartridge-operated unit can be refilled with powder and recharged with carbon dioxide or nitrogen in the community itself. The unit operates from a separate gas-filled cartridge attached to the shell. Additional powder and cartridges may be purchased and stored in the community itself.

Disadvantages

1. The initial cost of the cartridge-operated unit is nearly double the initial cost of the stored pressure unit.

2. When the seal of the gas cartridge has been broken, it must be replaced, regardless of how much powder has been expended.

USING FIRE EXTINGUISHERS

Which ever type of portable extinguisher is selected by the village, the general principals for its use are the same.

Portable fire extinguishers are designed for use on incipient fires, those in early stages. With proper training, however, individuals can become very proficient in using portable extinguishers even on fires which have progressed to a considerable degree.

Several limitations apply to almost all fire extinguishers. The following must be considered by the prospective fire fighter:

1. There is a limited amount of extinguishing agent.

2. There is a limited range, from 8-12 feet in the case of direct application, from a 10 lb. multi-purpose unit.

3. There is a limited time of discharge ranging from eight seconds for smaller units to as much as two minutes.

4. There is the need for close and complete maintenance and for some types of extinguishers, a higher cost of recharging the unit.

In order to get the maximum effect from the limited amount of extinguishant contained in a small portable unit, the firefighter should use the following guidelines.

A. Hold the extinguisher in one point only long enough for the discharge to accomplish the maximum effectiveness at this point of impact, then move it to an adjacent area. Efficient movement of the stream of extinguishant, a critical factor, comes only with repeated experiences in attacking typical problem fires in training sessions. Moving the stream too fast will result in leaving an area unextinguished. Moving the stream too slow will result in needlessly drenching one area and emptying the extinguisher, leaving other areas unextinguished.

B. As a rule, start the fire attack on the fire at the lowest level and move upward. This will prevent the area already extinguished from becoming reinvolved by rising heat.

C. Do not waste any extinguishing agent by attempting the attack from a distance beyond the range of the extinguisher. The user must get within reach and pick the point of first attack very carefully. Do not, however, get so close that there is needless punishment from heat.

D. When the fire involves a liquid, such as fuel, do not agitate the surface. When the force of the discharge causes fuel to be blown up into the air, the fuel can contact additional oxygen for more complete combustion, resulting in an increase in intensity.

E. Frequently the use of two or more extinguishers together will put out a fire which would continue to burn if attacked by a series of single units.

F. Do not shut off the extinguisher until certain that the fire is definitely out.

In cases where a structural fire has gained considerable headway, coordinate an attack using several extinguishers simultaneously from several locations to obtain possible extinguishment. The intent is to saturate the atmosphere within the fire with sufficient extinguishing agent to interrupt the production of flame. This reduces immediately the temperature levels which, in turn, slows down or stops the production of combustible gases, thereby stopping progression of the fire.

If the structure is closed up, that is, doors and windows are closed and intact, make the attack by breaking out a small section of each window and discharging one or more extinguisher into the fire area. Discharge should be toward the ceiling area as well as toward the seat of the fire, if such is apparent.

In the event that the attack is directed from several sides of the house, it is important that the discharge of extinguishers be simultaneous for best effect. Use caution to insure that extinguishers are not wasted in rooms remote from the fire or not directly involved.

If the fire has been burning for some time in a closed up building, extreme caution must be exercised in deciding whether to break windows or ventilate the structure first. The danger is the possibility of a smoke or back-draft explosion which, occurring when oxygen is admitted to a superheated atmosphere of combustible gases, could result in injuries or immediate loss of the building. (See the Section on Entering a Burning Building).

INSTALLATION, CARE AND MAINTENANCE OF EXTINGUISHERS

To be effective as a firefighting tool, a portable fire extinguisher must be placed where it is readily accessible at all times. In most rural homes, the primary fire hazard is the oil or wood fired kitchen stove area. A common mistake is to hang the fire extinguisher next to the stove area when, in fact, if the stove area is involved in fire, the extinguisher may become completely inaccessible. Homeowners should hang extinguishers just inside the front door where they can be reached either from inside or outside the building. An alternate position, or position for a second extinguisher, would be inside the bedroom where the adult members of the family sleep. This second extinguisher would be valuable in cases where one would have to knock down a fire in order to get out of the burning structure.

Multi-purpose dry chemical extinguishers are relatively maintenance free and require only two periodic checks:

1. Check pressure guage to determine that gas pressure is up to full mark.

2. Periodically turn extinguisher upside down and shake several times to prevent powder from becoming caked.

CAUTION: Dry chemical extinguishers which have been even partially discharged must be sent in to a service agency for cleaning and recharging. Particles of powder which stick on the surfaces on the discharge valve will allow the nitrogen gas to drain off, leaving the extinguisher useless.

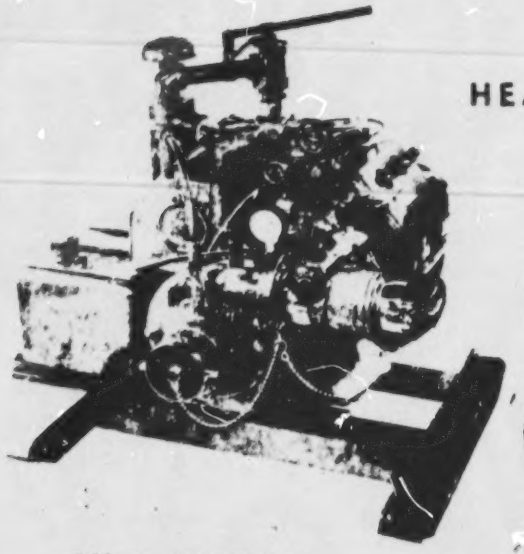
PORTABLE PUMPING EQUIPMENT

Fire fighting methods may vary from summer to winter, particularly in northern rural communities. In summer communities near a river or the sea will have a plentiful supply of water. Summer fire fighting can center then around the use of portable fire pumps, hose and nozzles. When the water source completely freezes in winter, fire fighters must use portable fire extinguishers again.

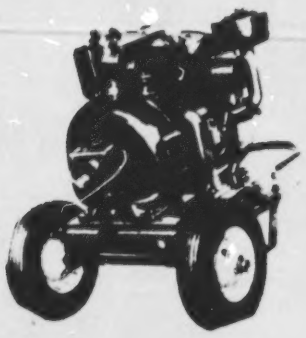
Portable pumps are manufactured in a wide variety of types and capacities with prices ranging from $400 to over $1200. The most efficient type for rural fire protection is a self-priming centrifugal pump which can discharge 60 to 120 gallons per minute.

FIGURE 3

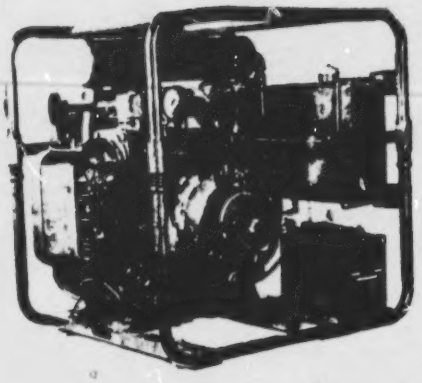
HEAVY DUTY PUMPS



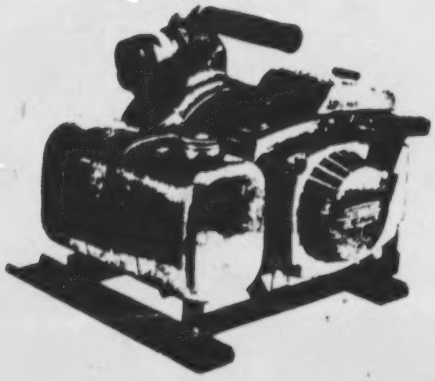
SKID MOUNT



WHEELED

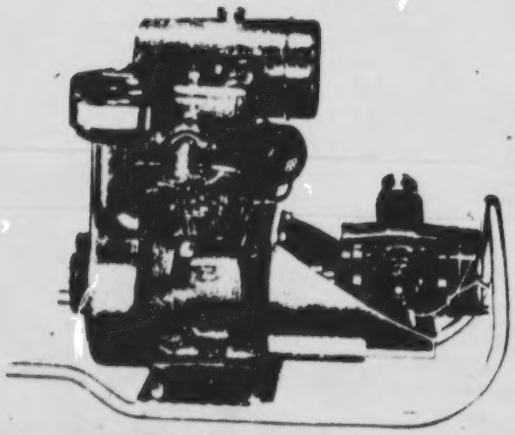


BOX-FRAME

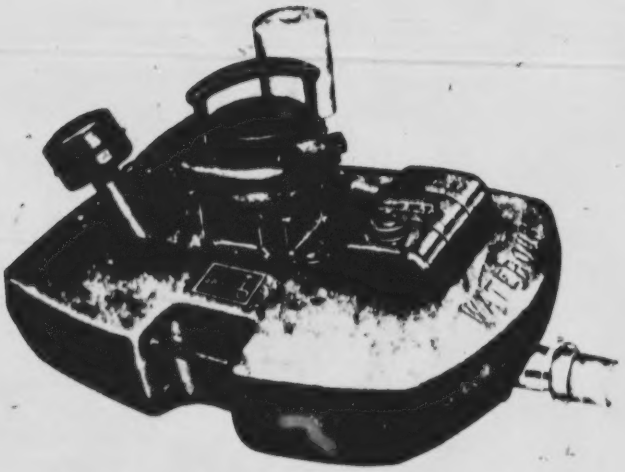


TYPES OF PORTABLE PUMPS

LIGHT



MEDIUM



FLOATING

The following are the three basic designs of portable fire pumps. First, a high pressure, low volume unit is designed for grass and brush fires requiring maximum range and penetration from the pumping equipment. This kind of fire fighting is usually conducted with hose and nozzles of small diameters, sacrificing volume of water for greater pressure. The second type is "Trash" pumps which deliver a large volume of water, but at a greatly reduced nozzle pressure. Such pumps are used for irrigation, pumping basements or pits during construction and for salvage work. Its low pressure capability may make this pump type unsatisfactory for firefighting. The third type of pump combines the best features of the two previously mentioned units, medium volume and medium pressure. These pumps are designed to supply moderate volumes, 60 to 200 gallons per minute, at pressures adequate for most firefighting requirements, about 60 to 100 pounds per square inch (P.S.I.).

It is impossible to point to one specific portable pump as being the ideal pump for rural firefighting in Alaska. Conditions and requirements as to geographical location, water flow, and portability vary from village to village. For example, the hillside communities of Southeast Alaska require either a pump large enough to deliver an adequate volume of water uphill with sufficient pressure to be useful for firefighting, or two smaller pumps set up to pump in relay, thus boosting the pressure as the water is pumped from the source through the first pump and from there, to the second pump and the fire. Villages located along the Bering Sea and Arctic Ocean or adjacent to major river systems have a different situation. There elevation may not be a major factor but villages may be sprawled over a considerable area, requiring lengthier hoselines and perhaps, again, the use of two pumps in relay to deliver adequate water to homes some distance away from the water source. And there may be homes and other structures located so that it is just not possible to pump adequate amounts of water for firefighting. In these cases, villagers will have to rely on using portable fire extinguishers.

Village Councils anticipating purchase of portable fire pumps should consider the following:

1. What will be the pumping distance from the water source to the fire? If low tide puts the water source 100 feet or more from the first line of houses, consider a pump which delivers its rated capacity at a higher pressure because of the added distance it must push water during low tides. An alternative would be to purchase a second pump for relaying water, placing one pump at the water source and the second close to the fire. If this method is used, pumps of lesser pressure ratings can be purchased.

2. How portable must the pump be? Where roads or adequate paths give ready access to the water source, larger pumps can be purchased and mounted on optional two-wheel carts. Larger capacity pumps can also be carried in pick-up trucks or towed on skids behind snow machines.

   If pumps must be hand carried over difficult terrain, or if firefighting personnel includes people of lesser physical strength, it may be advisable to purchase the lightest possible pump which gives an adequate supply of water. In general, pumps weighing up to 150 lbs. can be easily carried by four people. Most heavy duty pumps weigh 100 to 150 lbs. Light and medium duty pumps may range from 25 to 95 lbs. One manufacturer markets a floating "Floto Pump" which produces 80 gpm at 65 p.s.i. and weighs only 40 lbs.

3. How much water should the pump deliver to the fire? A typical portable pump delivers 60 gpm at 100 p.s.i., excellent for firefighting because it is sufficiently high for developing a good fog pattern. If the nozzle is selected to produce a good pattern at 60 gpm, then the result will be an effective fire stream for 1½ " hose lines. One problem, however, must be considered. When high velocity water flows through rubber lined hose, it develops friction which results in a loss of pressure, called "friction loss." The friction loss factor for 100' of 1½" hose flowing

60 gpm is about 14 p.s.i. which means that the nozzle pressure will be reduced to 86 p.s.i. If the hose line is 200' long, friction loss will reduce the nozzle pressure to 72 p.s.i. In addition, nozzle pressure will drop 5 p.s.i. for every 11½' that the pump must raise water above its own level. These factors must be considered when choosing a pump. For example, if a pump must push water through 100' of 1½" hose uphill to an elevation of 23' to reach the fire, the loss in nozzle pressure will be as follows:

Rated Pump Pressure	100 p.s.i.
Friction Loss per 100' 1½" hose	14 p.s.i.
Pressure Loss due to elevation	10 p.s.i.
Total Pressure Loss	24 p.s.i.
	100 p.s.i.
	- 24 p.s.i.
Nozzle Pressure	76 p.s.i.

Where pressure loss caused by elevation and friction may seriously reduce the effectiveness of a pump, select a unit which delivers an adequate gallonage at a substantially higher nozzle pressure. For example, a pump which delivers 60 gpm at 155 p.s.i. and used under the same circumstances as above, would have an adjusted nozzle pressure of 131 p.s.i.:

Rated Pump Pressure	155 p.s.i.
Pressure Loss due to Elevation and Friction	-24 p.s.i.
Nozzle Pressure	131 p.s.i.

Thus, choosing a pump of the same gallonage, with a higher discharge pressure, allows maintenance of a more than adequate nozzle pressure even after friction and elevation losses are subtracted.

Generally speaking, the previously mentioned medium volume, medium pressure pumps will provide an adequate fire stream in most instances as long as the friction and elevation pressure losses are not excessive. Best results are obtained when the community purchases nozzles of gallonages matched to the pump.

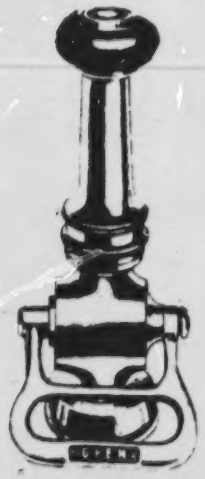
HOSES & NOZZLES

Fire hose, manufactured in a variety of grades, should be purchased to fit the service for which it will be used. Modern hose consists of a vulcanized rubber tube to which a woven jacket of cotton-synthetic fiber or 100% synthetic fiber is bonded. Municipal fire hose with a single woven covering is called "Single Jacket"; it usually is pressure tested to a strength of 300–500 p.s.i. Some hose, called "Double Jacket" hose, is provided with an additional woven sleeve which adds strength and abrasion resistance. Double jacket hose is tested to 400–800 p.s.i. For rural firefighting where hose is not in regular use, single jacket synthetic hose is entirely adequate.

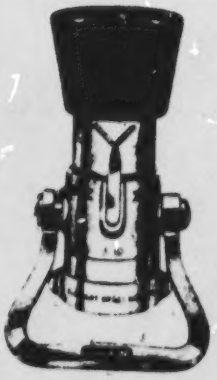
SOLID STREAM

FIGURE 4

BRASS NOZZLES

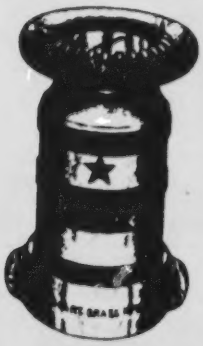


1½" Direct
Hose Connection

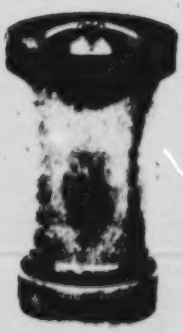


1½"
Leader Line

1½" Mystery



1½"
Industrial



1½" Size

2½" Size

"RANGER" FOG NOZZLES

ALUMINUM

1½" LEXAN* FOG NOZZLES

PLASTIC

Standard hose length is 50' with couplings. Estimated cost of a 50' length of 100% synthetic single jacket hose with brass couplings is $40.00 to $50.00 per length. Such hose may be of municipal or forestry grade and will weigh 16 to 20 pounds per length. 2 1/2" hose of the same general type will cost $57.00 to $75.00 per length and weigh 28 to 35 pounds.

Eureka Fire Hose Co. markets a line of plastic hose called "Uniroyal." This hose is impervious to oil or gasoline, abrasion resistant, and remains pliable to -65° F. It is durable, lightweight hose, giving excellent service under rural firefighting conditions.

State law requires that all hoses, nozzles, and fittings be purchased with National Standard Threads (NST or NS).

Firefighting nozzles, available in many types and styles, must be selected to match the portable pump in use. For rural use with portable pumps, industrial or forestry nozzles of brass, aluminum or plastic will give excellent service: Lexan plastic nozzles, Sierra plastic nozzles or "Ranger" aluminum nozzles in the 1½" size cost from $21 to $55. Standard brass industrial nozzles are priced around $40. The "Mystery" fog nozzle is also designed to work well with portable pumps, having a range of 40–95 gpm, but it is priced higher, about $90.00. There is no point in spending $125 for a chromed 1½" fog nozzle if a $20.00 Lexan plastic nozzle will do the job as well. 2½" nozzles are available in most of the styles and types described above. Prices are correspondingly higher.

FIREFIGHTING TECHNIQUES

USE OF FIREFIGHTING EQUIPMENT: PORTABLE PUMPS, HOSES AND NOZZLES

Portable pumps provide an easy means of transporting water under pressure from the water source to the fire. The size of the pump, distance to the fire, size of hose, and number of hose-lines required all affect the firefighter's ability to control and extinguish an unwanted fire.

If the pump is of low capacity or the burning structure is small, it may be advisable to extend a single 1½" line from the pump to the fire. To use more than one line from a low capacity pump would reduce volume and water pressure so that both would be ineffective.

If, however, both pressure and volume of water are sufficient, then employ an extremely effective hose-lay known as the "Wyed Line" which provides two lines of 1½" hose for use at the fire. The "Wyed Line" consists of a length of 2½" hose extending from the pump toward the fire to which, at some point near the fire, a gated wye is attached. From the wye, two 1½" lines are extended to the fire. Both lines may be used in fighting the fire or one may be kept outside to protect other structures exposed to danger. The advantage of the "Wyed Line" hose lay is that the loss of pressure from friction is much less in 2½" hose than it is in 1½" hose. The 2½" inch hose delivers a large volume of water (nearly four times as much as 1½" hose) at good pressure close to the fire. The 1½" lines are then shorter, resulting in less friction loss and more maneuverability.

If the fire is in an advanced stage or burning so as to endanger other structures, it may be advisable to put a 2½" nozzle on the large hose and knock down the fire with a large delivery of water. The nozzle can then be removed, the gated wye placed on the 2½" hose and the 1½" lines used from the wye to finish extinguishing the fire. This firefighting procedure is standard practice in the fire service.

TYPICAL FIREFIGHTING LAYOUT FOR PORTABLE PUMP

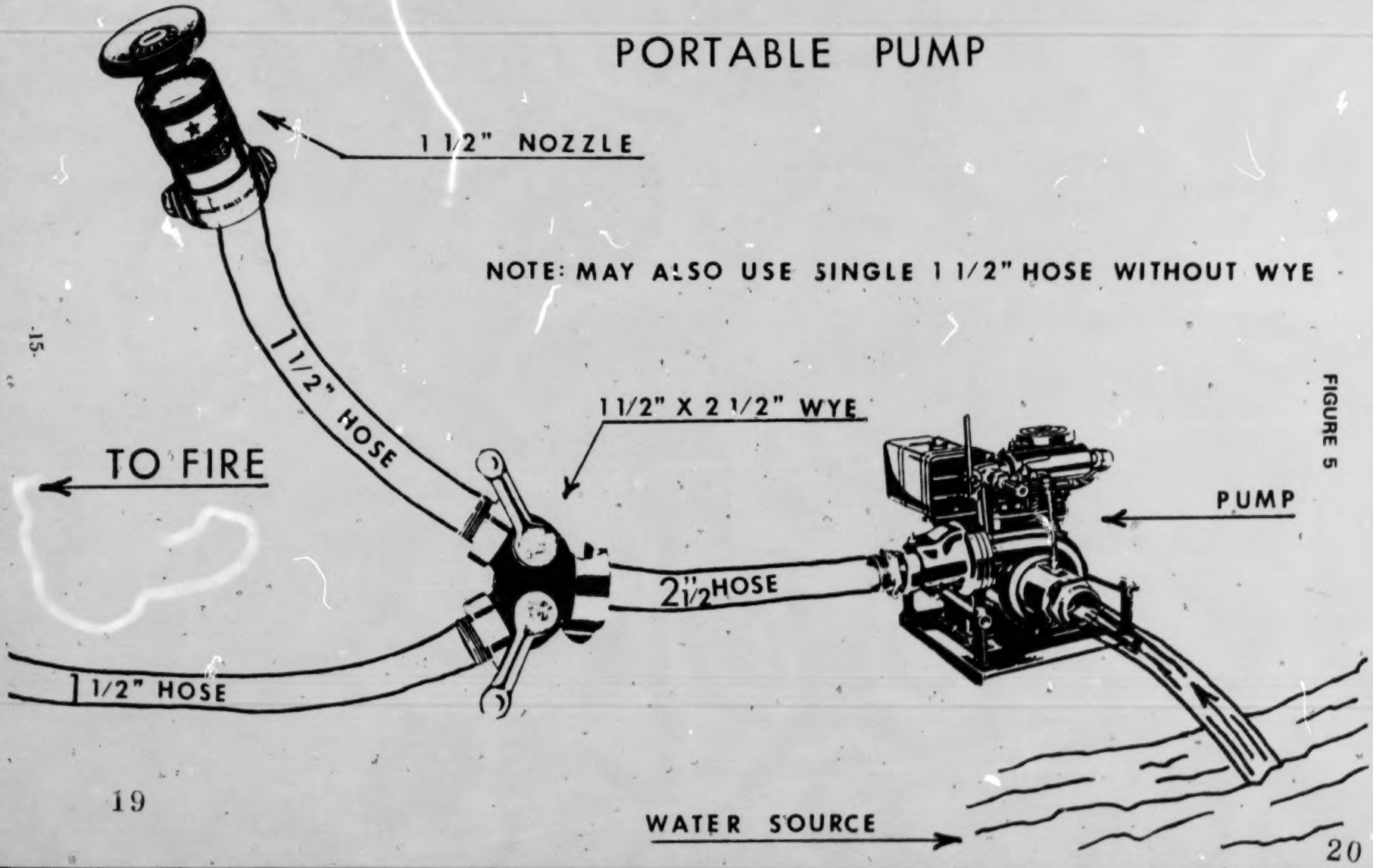


FIGURE 5

Rural fire fighters should keep in mind that considerable time may be involved in getting pumps in position, starting the pumping operation and extending the hose lines to the fire. If the burning structure is not to be lost during this time, use portable fire extinguishers to control the fire and retard its progress until water is available.

VENTILATING AND ENTERING A BURNING BUILDING

Fire inside a building generates large amounts of smoke, heat and flammable or toxic gases. Thus, an atmosphere develops which is extremely dangerous to human life and, if not changed, will rapidly result in the death of any people trapped inside. Further, the atmosphere hampers firefighters by increasing the spread of fire as the heat levels raise in other parts of the structure. It also reduces visibility, making it hard to locate the seat of the fire, and increases the heat and smoke damage even in areas where the fire itself has not extended.

To keep the fire from spreading and reduce heat and toxic gas levels to a point where firefighters can effectively work inside the structure, ventilation must be provided in much the same way a chimney ventilates a stove by carrying off the hot smoke and gases. There are two ways of ventilation: vertical ventilation and horizontal ventilation.

VERTICAL VENTILATION

To vertically ventilate the burning structure, open the roof as close as possible over the seat of the fire. These holes should be made on the downwind side of a peaked roof, as high as possible, and large enough to be effective. If the hole is made on the upwind side, the wind will prevent the smoke and gases from venting into the open air.

The firefighter may use axes, chain saws or whatever means available, to make vertical ventilation. Doors and windows should never be opened until roof ventilation has been performed and charged hose lines, if available, are in position.

HORIZONTAL VENTILATION

If, for any reason, it is not practical to open the roof, ventilate the structure by horizontal ventilation. First open or break out windows on the downwind side of the house, then those on the upwind side. Again, never do this until charged hoselines are in place and ready to extinguish the fire.

Place hose streams in the windows on the upwind side of the house so as to not interfere with the discharge of smoke and gas on the downwind side.

Since ventilation of a structure will usually increase the intensity of the fire, it is extremely important that firefighters be ready to apply water immediately and that no ventilation be done until they are ready.

If a door has been left open by persons escaping from a fire, close it until everything is ready to begin firefighting. This will reduce the flow of oxygen into the building and will slow down the growth and spread of the fire. In many cases the fire will have already broken windows or burned through the roof before firefighters begin work. When this occurs the fire has already ventilated itself and firefighting operations can begin immediately on arrival of men and equipment. REMEMBER: Keep doors closed and do not perform any ventilation until the necessary firefighting personnel and equipment are present and ready to go to work.

SMOKE OR BACKDRAFT EXPLOSIONS

When a fire has burned for a considerable time in a closed building it will burn freely until nearly all the available oxygen is used up. As the oxygen supply is reduced below a certain level, the fire will stop burning freely and go into a smoldering stage. It will continue to burn available fuel and give off heat and combustible gases which cannot ignite and burn because there is not enough oxygen available. If a door is opened or a window broken, the inrush of air will provide the needed oxygen for ignition, and all of the super-heated combustible gases within the building will ignite instantly and with explosive force. This smoke or backdraft explosion can very well kill or injure the careless firefighter.

Before doors or windows are opened, take the following precautions:

1. Check to see if open flame has disappeared and the building is filled with heavy dark smoke.

2. Feel doors and windows. *If they are hot, do not open them.* If windows are discolored by black or yellow-brown smoke stains, do not open them.

3. Smoke being forced out under the eaves, around doors or windows, or even through cracks between shingles on the roof or planks on the walls indicates a possibly explosive situation.

If any of these conditions are observed, bring ready to use hose lines or portable extinguishers to the building. When everything is ready to fight the fire, chop a hole in the roof as previously described. This will relieve the pressure within the building by venting smoke, heat and combustible gases into the atmosphere. As soon as the roof has been vented, the doors and/or windows can be opened safely and firefighting can begin. REMEMBER: If a backdraft explosion seems possible, keep the doors and windows closed until everything is ready to fight the fire. Open the roof to ventilate the building, then, and only then, begin firefighting operations.

RESCUING FIRE VICTIMS

1. Never enter a burning structure to rescue someone without either an extinguisher or a charged hose line.

2. Never enter a burning structure alone unless absolutely unavoidable.

3. Look for children under beds, behind furniture, in closets. They usually attempt to hide from the fire.

4. If the victim is larger or heavier than you are, do not waste time trying to carry him. Roll him on his back, grab him by the wrists and drag him out head first. This way, the victim will be kept close to the floor where the air is better.

5. Don't forget the possible need for artificial respiration or first aid once the victim has been rescued. This must be performed immediately on reaching safety if his life is to be saved.

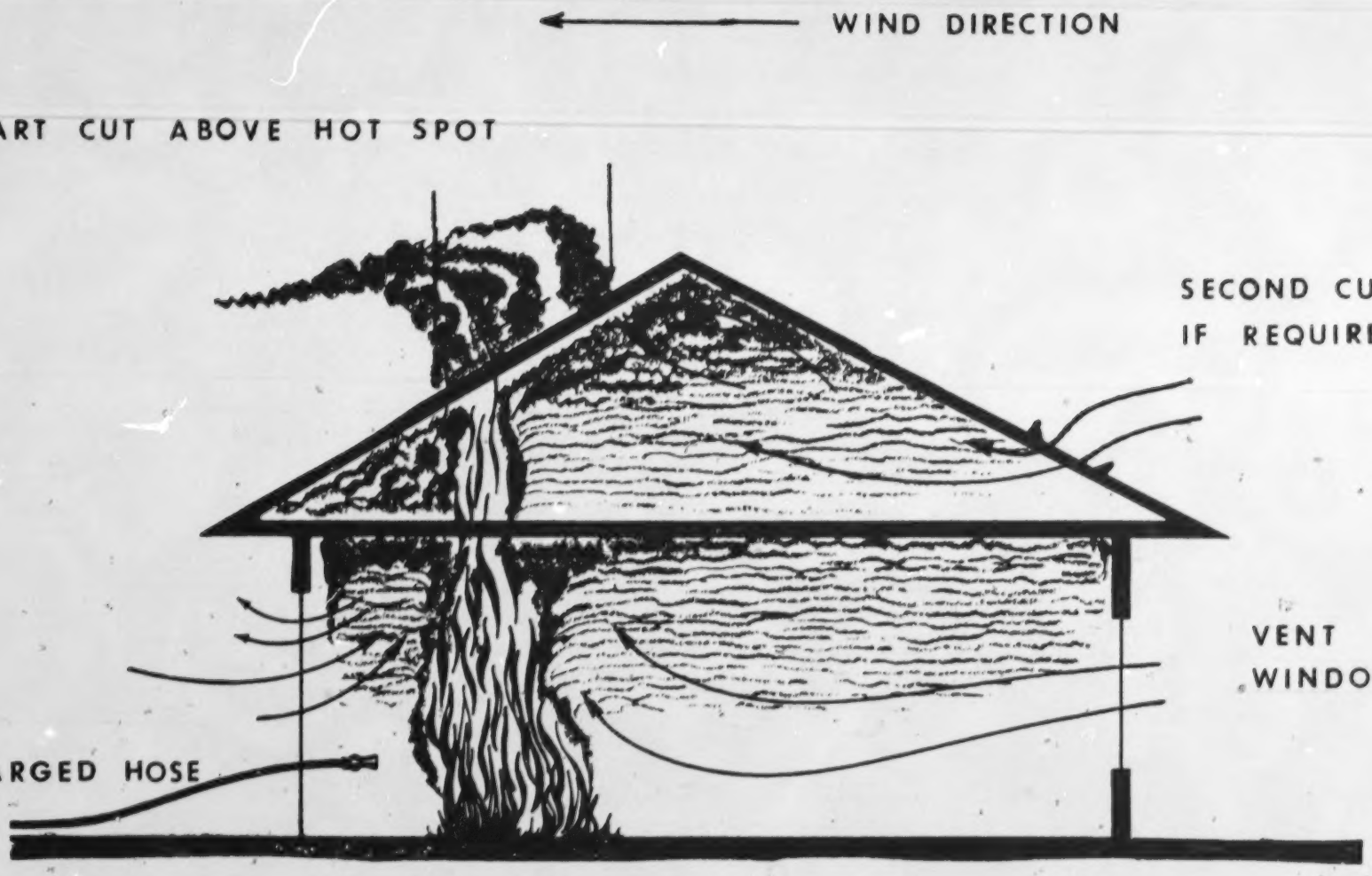


FIGURE 6

VENTING A PEAKED ROOF

CARE AND MAINTENANCE OF FIRE FIGHTING EQUIPMENT

Fire fighting equipment, whatever its type, is designed for instant efficient service under emergency conditions. Such equipment is expensive, difficult to obtain, and not generally suited to purposes other than firefighting. If it is not in peak operating condition and available for use when needed, a life may be lost or a building burned and the investment in fire protection equipment will be wasted.

When a village purchases firefighting equipment, it should be placed under care of the appointed fire chief. He, in turn, must be held responsible to the Village Council for the safety and security of the equipment. The Village Council should make it perfectly clear to everyone that village firefighting equipment is there for that purpose only and under no circumstances will it be loaned or used for any other purpose. The fire chief should be required to make periodic reports to the Village Council as to the condition of firefighting equipment, the need for replacement of items or purchase of parts, and recommendations of purchase of new or additional items.

Whether fire equipment be used on drills and training or actual fires it must be reserviced immediately after use.

1. All wet hose must be hung to drain and dry. After drying it should be rolled and returned to storage. Do not use oil or grease on hose threads. Stiff coupling swivels should be worked in hot soapy water until free. Hose used with salt water must be flushed with fresh water prior to hanging.

2. Portable pumps must be cleaned and drained after use. They must be flushed of salt water and thoroughly dried before storing. Wrenches, valves, caps, etc. should be placed in storage with the pump. Drain the gas tank and run the pump until the carburetor is dry. Mix fresh fuel and store in a suitable container with the pump.

3. Nozzles used with salt water must be flushed with fresh water. Wash in hot soapy water, rinse and dry. Follow same procedure with gated wyes and other hose appliances.

NOTE: All couplings on hose and fittings which have neoprene gaskets must be checked to be sure that the gaskets are in place and in good condition.

4. Wood ladders must be inspected for cracks or other damage after use. Keep ladders varnished with a marine or exterior varnish. Wood ladders should never be painted as paint tends to hide defects. Do not leave ladders out of doors or use them for any purpose other than firefighting. If the ladder fails someone may die!

5. Axes should be cleaned in soapy water after use. The head should be lightly oiled and the handle given an occasional rub-down with linseed oil. Keep axe blades sharp and free of nicks.

6. Portable fire extinguishers must be reserviced after every use whether they are completely empty or not. Powder will clog the discharge valve permitting the gas to escape and the extinguisher will not work when it is needed. For this same reason new extinguishers should never be "tested" by discharging powder prior to placing them in service.

SUMMARY: Firefighting equipment is expensive. Its purpose is to save lives and property from fire. If it is in good operating condition and well cared for it will do the job. If not, the fight against fire will be lost. The wise Village Council will establish solid rules for the care and maintenance of fire fighting equipment and those who break those rules should be severely dealt with.

SECTION II

STATE ASSISTANCE PROGRAMS

STATE FIRE SERVICE TRAINING PROGRAM

The State Fire Service Training Program, established in 1969, provides basic and advanced training support for fire departments of all sizes and types throughout the state. Using trained fire department personnel as itinerant instructors, it provides instruction in various methods and techniques of fire fighting at the local level. Communities or fire departments desiring this training should fill out a Request for Training form (see Exhibit 1, Section III) and mail it to:

Supervisor of Fire Service Training
Alaska Department of Education
Pouch F

Juneau, Alaska 99811

There is no charge for this service, although remote villages are usually requested to provide housing for visiting instructors.

Fire Service Training also maintains a film and audio-visual lending library of over 60 fire training films (see FSTP Audio-Visual Catalog, Section III), overhead transparencies, slides, books, and manuals. These may be ordered from the catalog at no cost except return postage; they will be sent on an "as available" basis.

Fire Service Training personnel will also assist small communities in planning for fire protection, deciding on fire fighting equipment needs, organizing volunteer fire departments, and obtaining services of other state agencies.

DIVISION OF FIRE PREVENTION

The Division of Fire Prevention (State Fire Marshal's Office) is a part of the State Department of Public Safety established for the purpose of enforcing the State's fire prevention and life safety code. The Division is directed by the State Fire Marshal who is assisted by three Regional Fire Marshals in Juneau, Anchorage and Fairbanks. Several Fire Prevention Inspectors are assigned to the regional offices as well.

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Among other services, the Division of Fire Prevention assembles fire reports and data from which the annual record of fire fatalities and property losses is determined. To do this, they use fire report forms (see Exhibit 3, Section III) which are filled out by the local fire chief and sent in for the record.

The Fire Marshal also certifies the existence of organized fire departments in communities which plan to apply for fire protection funds under the provisions of the State Revenue Sharing Program (State Aid to Local Governments). Communities wishing to organize a volunteer fire department should follow the procedure outlined in Exhibit 4, Section III. Communities must complete the Certificate of Existence of Fire Department (Exhibit 5) and submit it to the State Fire Marshal's Office for approval. The interested community will be provided with a packet of forms and information sheets upon request.

DIVISION OF LOCAL GOVERNMENT ASSISTANCE

Located within the State Department of Community and Regional Affairs, the Division of Local Government Assistance administers the Municipal Services Revenue Sharing Program. The revenue sharing program, initiated in 1969 by the Sixth Alaska Legislature, provides State funds to qualified municipalities providing various public services as of the year application is made. The program is governed by Alaska Statutes 43.18.010 through 43.18.050 and Alaska Administrative Code Regulations 19AAC30.010 through 19AAC30.160.

Of particular interest to communities providing some local fire protection are the provisions of AS 43.18.010 (2) which allows a payment of $5 per capita for qualified cities and boroughs in this catagory. The section reads as follows:

Sec. 43.18.010 STATE AID TO LOCAL GOVERNMENTS. (a) During each fiscal year the State shall pay to a city or organized borough of any class which has the power to provide the following services and exercises that power.

(2) $7.50 per capita to cities and boroughs providing fire protection;

(A) fire protection includes, but is not limited to, fire protection provided by a volunteer fire department registered with the State Fire Marshal which has official recognition and financial support from the city or borough in which it is located;

(b) in addition to the grants authorized under this section, the State shall pay to a volunteer fire department registered with the State Fire Marshal and serving an area not in an organized borough or a city a sum for protection purposes equal to $5 per capita for the population served by the department, as determined by the State Fire Marshal using the latest figures of the United States Bureau of the Census or other reliable data; grants shall be made on the same basis to facilitate the organization of volunteer fire departments in an area not in an organized borough or a city, upon application of the proposed fire protection group to the State Fire Marshal and approval of applications according to standards of organization and service prescribed by regulations promulgated by the State Fire Marshal;

Communities wishing to receive revenue sharing funds must complete a Summary Application form (Form 21-201) and supplemental applications for each municipal service for which they are requesting state aid under the law. The Supplemental Application for Fire Protection is Form 2 and, if applicable, Form 2(a). A Certification of Population form is also part of the application package. Samples of these forms are included in Section III.

Two booklets are available to aid communities in the preparation of forms and meeting other requirements of the State Aid to Local Governments Program. They are *Application Fiscal Year 1975*, Alaska Local Government, Volume XIII No. 3, and *Municipal Financial Reporting Manual for Second Class Cities*. Both may be obtained by writing to:

Department of Community & Regional Affairs
Division of Local Government Assistance
Pouch B
Juneau, Alaska 99811

NOTE: Communities are cautioned to keep abreast of current regulations affecting the Municipal Services Revenue Sharing Program as they are subject to change and modification on a yearly basis.

DEPARTMENT OF NATURAL RESOURCES

The Provisions of Title IV, Section 401-4, of the 1972 Rural Development Act, authorized the Secretary of Agriculture to provide financial, technical, and other appropriate officials of the various states in cooperative efforts to organize, train, and equip local forces to prevent, control, and suppress wildfires endangering human life and property.

In Alaska, Village Councils or organized rural fire protection groups may enter into a cooperative agreement with the State Forester, Division of Lands, Department of Natural Resources, for the purpose of receiving organizational assistance and advice and the opportunity to purchase fire fighting equipment from the General Services Administration (GSA) at reduced prices. The cooperative agreement will also permit participating communities to receive federal excess property when available.

Those wishing detailed information on this program should write to:

State Forester
Division of Lands
Department of Natural Resources
323 East 4th Avenue
Anchorage, Alaska 99501

or:

Chief, Division of State and Private Forestry
U. S. Forest Service
P. O. Box 1628
Juneau, Alaska 99802

SECTION III
USEFUL INFORMATION

EXHIBIT 1

STATE OF ALASKA
Department of Education
Division of Vocational & Adult Education
Fire Service Training Program

We DO DO NOT (circle one) wish to have in-service fire training at this time.

We would like to have training on the following dates and time.*

DATE TIME

_____

_____

_____

_____

_____

_____

* Please schedule classes on consecutive dates.

We would like to have the following subjects taught:

UNIT I BASIC FIREFIGHTING PRACTICES

SECTION I	Elements of Public Fire Protection	Class Hours_____
SECTION II	Behavior of Fire	Class Hours_____
SECTION III	Portable fire Extinguishers	Class Hours_____
SECTION IV	Forcible Entry and Rope Practices	Class Hours_____
SECTION V	Fire Hose Practices	Class Hours_____
SECTION VI	Water Supply for Firefighting	Class Hours_____
SECTION VII	Fire Service Ladders	Class Hours_____
SECTION VIII	Ventilation Practices	Class Hours_____
SECTION IX	Rescue and Breathing Apparatus Practices	Class Hours_____
SECTION X	Salvage and Overhaul Practices	Class Hours_____

Other Fire Training Subjects:

1._____ Class Hours_____

2._____ Class Hours_____

3._____ Class Hours_____

Control Burn Desired? _____YES _____NO

Is a Structure Available? _____YES _____NO

TOTAL HOURS_____

Signed_____

Title _____

EXHIBIT 2

STATE OF ALASKA
Department of Education
Division of Vocational & Adult Education
Fire Service Training Program

POST FIRE EXTINGUISHER RATING FORM

Please answer these questions so that we may determine the value of portable fire extinguishers in fighting fires in rural communities:

Date of Fire: _____ Community: _____

Hour of Day: _____ Place in Building Where Fire Started: _____

Building Involved: _____

Type of Building (Home, Store, School, etc.): _____

Describe Building Construction and Materials (Roof, Walls, Floors, Contents, etc.): _____

_____

_____

Number of Extinguishers Used: _____ Type: _____

DESCRIPTION OF FIRE CONDITION

1. What was the state of the fire on your arrival? _____

_____

_____

_____

2. Was the building closed up (doors, windows, etc.)? _____

_____

3. Had flames broken through roof, windows, etc. (Describe)? _____

_____

_____

_____

4. How were extinguishers used? Check the correct lines.

   a. From inside building? _____

   b. From outside building? _____

   c. Through windows or doors? _____ Which? _____

   d. One at a time? _____

   e. Several together? _____ How many? _____

   f. Discharged into building interior? _____

   g. Directed at seat of fire? _____

5. If fire was knocked down, was immediate entry made? _____

If not, why not? _____

_____

6. Were smoldering beds, chairs, etc. removed? _____

7. Was the use of extinguishers followed by the use of water or snow? _____

8. How and where was water or snow applied (pump, buckets, shovels, etc.)? _____

_____

_____

9. What effect did water or snow have? _____

_____

10. If the building was a total loss, to what do you attribute this fact? _____

_____

_____

_____

11. If building was saved, to what do you attribute this fact? _____

_____

_____

_____

_____

12. If a fire of this type occurs again, what would you do differently? _____

_____

_____

_____

ADDITIONAL COMMENTS: _____

_____

_____

_____

_____

_____

THANK YOU FOR YOUR COOPERATION

_____

William A. Hagevig
Supervisor
Fire Service Training Program

EXHIBIT 3

STATE OF ALASKA

DEPARTMENT OF PUBLIC SAFETY

September 5, 1974

Re: Fire Report Forms

Dear Chief:

Enclosed please find a supply of a new, shortened fire report form for your use. You should complete one each time you have a fire and send it to us as soon as possible.

Below you will see an example of the completed form. You may use this as a guideline.

12-401-Rev 7-74

VILLAGE FIRE REPORT

CITY OR VILLAGE Your town or village name

LOCATION OF FIRE Main Street

Date of Fire September 1, 1974 Hour of Day ____ a.m. 3:30 p.m.

Name of Occupant Mary Doe

Where was Occupant at time of fire In kitchen

Name of Owner John Doe (husband of Mary Doe)

Size of Building 24' x 30' one story Age of Building 15 years

Building made of wood frame, wood siding Number of Rooms 5

Where did the fire start In kitchen

How did the fire start Oil stove caught clothes hanging above stove on fire.

Who discovered the fire Mary Doe

Was the fire put out yes How Mary Doe used 10# dry chemical extinguisher.

Loss of Life (Name, Race, Age, Sex) None

Injuries Mary Doe received slight burn on left hand.

Value of Building $3,500.00 Estimated Loss $ 50.00 - clothing - $100 - walls

Reported by Bill Williams, Fire Chief Date 9/2/74

When the form is completed, all you need to do is drop it in a mail box. If you need additional forms, just ask for them and a new supply will be sent to you.

Very truly yours,

Ronald A. Hendrie
State Fire Marshal

EXHIBIT 4

STATE OF ALASKA
Department of Public Safety
Division of Fire Prevention
Pouch "N"
Juneau, Alaska 99811

PROCEDURE FOR ORGANIZING A FIRE DEPARTMENT

TO

QUALIFY FOR STATE SHARED REVENUE

I. Contact the State Fire Marshal. Request the Volunteer Fire Department Packet.

II. If your village is incorporated and/or if your village is in an organized borough you must have the official recognition and financial support from the city or borough. This will require passage of an ordinance (See sample Ordinance.) by the City, or, if in a borough, the forming of a service area. (Contact the borough manager.) Local financial support may be "in-kind", meaning land, a building or equipment.

III. If your village has completed step 2 (above) or if your village is not in an incorporated city or borough, you should now form your fire department. You may want to use the sample constitution for a guide. Get your group of firefighters together, elect a fire chief, develop a fire protection plan for your village.

Fill out the CERTIFICATE OF EXISTENCE of Fire Department and send it and a list of your firefighters back to us.

IV. If everything is in order we will tell the Department of Community and Regional Affairs that you are organized and officially recognized by the State Fire Marshal.

V. Don't give up . . . . . all this paper work takes time. Soon you will be getting State money to help your fire department buy equipment. Please remember that the Alaska Federation of Natives has agreed to help you in your purchasing. Contact Carl Jack, Alaska Federation of Natives, Anchorage.

EXHIBIT 5

STATE OF ALASKA
Department of Public Safety
Division of Fire Prevention
Pouch N
Juneau, Alaska 99811

CERTIFICATE OF EXISTENCE OF FIRE DEPARTMENT

NAME: _____
(Official Name of Department)

MAILING ADDRESS: _____

CITY: _____ ZIP CODE: _____

DATE AUTHORIZED BY MUNICIPAL ORDINANCE OR SERVICE AREA ELECTION:

_____

ORGANIZED: _____ 19___. NUMBER OF COMPANIES: _____

Number of members in each company: _____

Number of pumpers: _____

Number of ladder trucks: _____

Does your department operate an ambulance service? _____

Population of your city at the last census: _____

Area served: _____

_____

_____

_____

State whether or not governing body of city or town has authorized fire department to leave corporate limits. _____

Are you working under any mutual aid agreements? _____

GIVEN UNDER MY HAND AND THE SEAL OF MY OFFICE THIS: _____ DAY OF _____. 19_____.

_____
OFFICER OF FIRE DEPARTMENT

EXHIBIT 6

APPLICATION FOR STATE REVENUE SHARING

(Cover sheet and fire protection forms only)

DUE FOR REVISION IN AUGUST, 1976

APPLICATION FOR STATE AID TO LOCAL GOVERNMENTS
SUMMARY

Date: _____

TO: Department of Community and Regional Affairs
Pouch B
Juneau, Alaska 99811

From: _____

OFFICIAL PERMANENT RESIDENT POPULATION: (Total) _____

(If this figure is different from the 1970 U. S. Census or the latest population figure accepted by the Department for purposes of State Shared Revenue, refer to the section regarding "POPULATION ADJUSTMENTS" in the instructions accompanying the application forms).

Service Areas

Name	Population

INSTRUCTIONS: Attach Supplemental Applications for each municipal service for which you are requesting state aid under the State Aid to Local Governments Municipal Services Revenue Sharing Program (AS 43.18.010-050).

Complete the information below for each Supplemental Application attached.

FORM	MUNICIPAL SERVICE	RATE OF ENTITLEMENT	BASIS OF COMPENSATION	STATE AID REQUESTED
1	Police Protection	$ 12 per capita	_____ pop.	$_____
2	Fire Protection	$ 7.50 per capita	_____ pop.	$_____
3	Air and/or Water Pollution Control	$ 2 per capita	_____ pop.	$_____
4	Land Use Planning	$ 2 per capita	_____ pop.	$_____
5	Parks and Recreation	$ 5 per capita	_____ pop.	$_____
6	Transportation Facilities	$ 5 per capita	_____ pop.	$_____
7	Road Maintenance:			
	(a) Public Roads	$ 1,500 per mile	_____ miles	$_____
	(b) Ice Roads	$ 900 per mile	_____ miles	$_____
8	Hospitals	$ 1,000 per bed	_____ beds	$_____
		$20,000 per hosp.	_____ hosp.	$_____
		$50,000 per hosp.	_____ hosp.	$_____
	Health Facilities	$ 1,000 per bed	_____ beds	$_____
		$ 4,000 per fac.	_____ fac.	$_____
	State Construction Aid for Health Facilities	$ 2,500 per bed	_____ beds	$_____

STATE AID REQUESTED: $_____

SIGNATURE OF MUNICIPAL OFFICIAL: _____

NAME _____ TITLE _____ DATE _____

Form 21-201 (7-75)

Form 2

EXHIBIT 7

SUPPLEMENTAL APPLICATION FOR
STATE AID TO LOCAL GOVERNMENTS
FIRE PROTECTION

MUNICIPALITY: _____ DATE: _____

1. Does your municipality provide municipal fire protection? Yes ___ No ___

2. (a) If your answer is "yes," is fire protection provided by a volunteer fire department? Yes ___ No ___

(b) If your answer is "no," explain how fire protection is provided and list the amount of money spent by your municipality for fire protection.

$ _____

3. (a) If fire protection is provided by a volunteer fire department, was the department operating and registered with the State Fire Marshal as of July 1, 1975? Yes ___ No ___

(b) If your answer is "yes," does the group have the support of your municipal government? Yes ___ No ___

(c) How much financial support was given to the volunteer fire department by your municipal government during the period July 1, 1974 through June 30, 1975?

Cash Support	$_____
In-Kind Services (Estimated cash value)	$_____
TOTAL	$_____

4. (a) Have members of the volunteer fire department received any training? Yes ___ No ___

(b) If your answer is "yes," state the type of training given, who gave it, and the estimated number of training hours given each person.

5. Completion of the attached "Fire Protection by Service Areas" reports is required only for:

1) boroughs and unified governments
2) cities located outside organized boroughs providing fire protection services to areas outside their corporation limits through contractual arrangements or other support agreements.

6. ADDITIONAL INFORMATION

EXHIBIT 8

Form 2(a)

FIRE PROTECTION
BY
SERVICE AREAS

MUNICIPALITY: _____ DATE: _____

NAME OF FIRE PROTECTION GROUP	AREA SERVED	TOTAL POPULATION SERVED	MUNICIPAL FINANCIAL SUPPORT (JULY 1, 1974-JUNE 30, 1975)

TOTAL _____

COMMENTS: (for use by the State of Alaska)

Approved _____ Disapproved _____
Name _____
Title _____
Date _____

Attachment to Form 21-201

Fire Protection by
Service Area Report

CERTIFICATION OF POPULATION

(For Use as Attachment to Cover Sheet)

EXHIBIT 9

MUNICIPALITY: _____
DATE: _____

CERTIFICATION OF POPULATION

We, the undersigned, being duly elected _____ of
councilmen/assemblymen

_____ do hereby attest that the permanent resident population
city/borough

of the _____ was _____ people as of July 1,
name of municipality

1975. We have examined the evidence submitted with this State Revenue Sharing Application to support this population figure.

_____ Presiding Officer	_____ Councilman/Assemblyman
_____ Councilman/Assemblyman	_____ Councilman/Assemblyman
_____ Councilman/Assemblyman	_____ Councilman/Assemblyman
_____ Councilman/Assemblyman	_____ Councilman/Assemblyman
_____ Councilman/Assemblyman	_____ Councilman/Assemblyman
_____ Councilman/Assemblyman	_____ Councilman/Assemblyman

EXHIBIT 10

APPLICATION FOR FIRE PROTECTION FUNDS UNDER THE STATE AID TO LOCAL GOVERNMENTS MUNICIPAL SERVICES REVENUE SHARING PROGRAM

Name of Volunteer Fire Department *Date of Application*

(1) Was your community's fire department registered with the State Fire Marshal as of July 1, 1974?

Yes ☐ *No* ☐

If not, when was it started?

Date: _____

(2) Was your fire department organized and able to provide fire protection for the homes and businesses in your community as of July 1, 1974?

Yes ☐ *No* ☐

If not, please state the reason why.

(3) How much money was spent by your fire department during the period July 1, 1973 through June 30, 1974?

$

(4) How much of the money spent by your fire department was from:

State Revenue Sharing $ _____

Federal Revenue Sharing $ _____

Local Funds $ _____

(5) How many members does your fire department have?

Have they received any training? *Yes* ☐ *No* ☐

If so, state below the kind of training given, who gave it, and the date it was given.

(6) List below the firefighting equipment owned by your community's fire department.

List below the equipment your group plans to buy or has on order.

APPLICATION FOR FIRE PROTECTION FUNDS

(7) **What was the July 1, 1974 permanent resident population of the area served by your fire department? If the figure differs from the July 1, 1973 population, please see 19 AAC 30.060, Population Data, in the regulations.**

Population _____

Note: If your fire department serves only your community or village, list in the space provided above only the population of your village or community.

(8) SUMMARY OF AID REQUESTED:

Population Served _____ *X $5 per capita = $* _____

Application completed by:

Name _____ *Title* _____

Signature _____ *Date* _____

(9) ADDITIONAL INFORMATION:

FOR USE by the ALASKA STATE FIRE MARSHAL ONLY

COMMENTS:

APPROVED _____ *DISAPPROVED* _____

Name _____ *Title* _____

Signature _____ *Date* _____

EXHIBIT 11

Alaska Department of Education
Division of Educational Program Support
Fire Service Training Program
Juneau, Alaska

NOTE: The following model Constitution is suggested for small volunteer fire departments as a means of organizing and regulating their operations.

CONSTITUTION

ARTICLE I. NAME

SECTION I. The name shall be the _____

SECTION II. The name shall be recognized as official in all associations and activities of the aforementioned fire department.

ARTICLE II. OBJECTIVE

SECTION I. The objective shall be the protection of life and property from fire or other emergency such as ordinarily falls within the area of responsibility of an organized fire department.

ARTICLE III. ORGANIZATION

SECTION I. The department shall be organized in accordance with accepted good practice and shall be approved by the City (or Village) of _____ *City (or Village) Council.*

SECTION II. The department shall be under the direct supervision of one Fire Chief, elected annually (or every three years, etc.) by the department membership, and one Assistant Fire Chief, elected annually (or every____ years, etc.) by the department membership. A Secretary/Treasurer shall be elected annually (or every___ years, etc.) by the department membership. Election shall be by majority vote of the membership. (Note: A sentence can be added requiring approval of elected officers by the city/village council if so desired.)

SECTION III. It shall be the duty of the Chief to have charge of all apparatus and equipment of the fire department and to see that same is kept in proper operating condition. He shall preside at all meetings of the department and may call such special meetings or drills as he may deem necessary. He shall have complete charge of the department at all fires or other emergencies involving the department. He shall be responsible for the maintenance of adequate records of all fires and other emergencies. He shall have charge of the department in any other areas of activity not specifically mentioned above. He may appoint such company officers as he may deem necessary to assist with the work of the department.

SECTION IV. The Assistant Chief shall assist the Chief in his duties and take his place in his absence. He shall further serve as department training officer with responsibility for developing and implementing a department-wide training program, supervision of its operation, and maintenance of adequate records pertaining thereto.

SECTION V. It shall be the duty of the Secretary/Treasurer to keep a record of all department proceedings, to include attendance at meetings, fires, and drills. He shall report all members whose unexcused absences from meetings, fires, and drills exceed those permitted by department regulations.

The Secretary/Treasurer shall collect and receipt for all monies due and belonging to the department. He shall disburse all monies approved by the membership for payment of bills or other indebtedness encumbered by the department. He shall prepare and make an annual report of all such receipts and disbursements and existing balances and submit same to a department audit committee appointed by the membership. He shall further render a report of current financial status at each regular meeting of the department.

ARTICLE IV. MEMBERSHIP

SECTION I: Any male or female resident of the city (or village) of _____ shall be elegible for membership in the fire department providing he or she be of legal age, of good character, and able to meet the physical standards necessary for fire fighting. Persons exceeding 40 years of age at the time of application for membership will be inelegible.

All applications, submitted in writing, shall be read by the secretary at a regular meeting of the department. The application will be accepted or rejected by a majority vote of the membership. Persons elected to membership will be required to observe the rules and regulations of the department. Persons not elected to membership may reapply after a period of six months has elapsed.

SECTION II: Membership of the department shall be limited to _____.

SECTION III: Members no longer able to function as regular firemen for reasons other than advanced age or physical disability may request to be placed on honorable reserve. Reserve firemen may be called to active service at serious fires or whenever the Chief deems it in the best interests of the department. Reserve firemen may request reinstatement to regular membership at any time within 3 years of assuming reserve status providing they meet prescribed age and physical qualifications, and providing a vacancy exists on the department roster.

ARTICLE V. AMENDMENTS

SECTION I: This Constitution shall become effective immediately upon adoption by a majority of the membership and shall supercede all previous Constitutions of the department.

SECTION II: This Constitution may be amended by a majority vote of the members present at any regular meeting of the department, providing such amendment, in writing, has been proposed and read at a previous meeting.

SECTION III: This Constitution shall be reviewed and brought up to date every _____ years.

NOTE: "By-Laws" outlining specific regulations and rules of the department should be developed by the membership. These regulations are for governing the specific activities of the department and its membership and must necessarily be developed and implemented at the local level. Points which should be included in the "By-Laws" include:

1. Duties of Company Officers if appointed by the Chief.
2. Physical requirements for membership.
3. Compulsory retirement age for members.
4. Contents of applications for membership.
5. Number of unexcused absences permitted from meetings, fires, and drills.
6. Response to fires.
7. Provision for raising funds (if necessary).
8. Adoption of Roberts Rules of Order for all meetings.
9. Any other specific rules and regulations the adoption of which may be deemed in the best interests of the department.

EXHIBIT 12

SAMPLE ORDINANCE

AN ORDINANCE of the City of _____ Alaska, concerning the organization and regulation of the Fire Department of the city.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF _____ Alaska, as follows:

SECTION 1. Fire Department Established:

There shall be a Fire Department in and for the City to be known as the _____ Fire Department." It shall consist of a Fire Chief and Assistant Chief (or Chiefs), and as many other officers and firefighters as may be deemed necessary for the effective operation of the department.

SECTION 2. Volunteer Fire Department:

a. Organization. Members of the Fire Department may organize into a voluntary association with the election of their own officers and by-laws.

b. Limitation on Powers of Volunteer Department:

The functions and duties of the officers of the Volunteer Department shall not interfere with those of the regular department officers who are charged with responsibility for all fire service activities of the department. The voluntary association shall in no way limit the power of the Fire Chief. All property used by the Fire Department is and remains the property of the City and all expenses of the Fire Department shall be paid by check upon proper voucher by the regular City authorities.

c. Funding by City. From time to time in such amounts as the Council deems advisable, payments may be made to the Volunteer Department for the purpose of giving that association funds with which to reimburse members for clothing damaged while attending fires and for such other purposes in keeping with its functions.

SECTION 3. Fire Chief:

a. Appointment. The Fire Chief shall be appointed by the Council and shall be responsible to that body. His appointment shall be for an indefinite period of time and with tenure of office depending upon his good conduct and efficiency. He shall be technically qualified through training and experience and shall have the ability to command men. He shall be removed only for just cause and after a public hearing before the Council.

b. Powers and Duties:

1. The Fire Chief shall determine the number and kind of companies of which the Department is to be composed and shall determine the response of such companies to alarms.

2. He shall appoint all other officers and firefighters (both paid and volunteer). Such appointments shall be insofar as possible, following fair and impartial competitive examination. All officers shall be accountable to the Fire Chief or his representative.

3. He shall annually submit a tentative budget for his department upon request of the Council.

4. He shall assist the proper authorities in suppressing the crime of arson by investigating or causing to be investigated the cause, origin and circumstances of all fires.

SECTION 4. Rules and Regulations. The Fire Chief shall maintain and enforce an up-to-date, comprehensive set of rules and regulations governing the discipline, training and operation of the Fire Department. Such rules, regulations and any deletions, changes or additions shall be effective when approved and filed with the Council. The Fire Chief shall carry out strictly the enforcement of these rules and regulations and is authorized to suspend or remove from service any officer or firefighter as provided in the rules and regulations.

SECTION 5. Training and Records.

a. Drills and Training. The Fire Chief or his representative shall, at least two times per month, provide for suitable drills covering the operation and handling of all equipment essential for efficient department operation. In addition, he shall provide, at least four times per year, quarterly sessions of instruction to include such subjects as first aid, water supplies, and other subjects related to fire suppression.

b. Records. The Fire Chief shall see that complete records are kept of all apparatus, equipment, personnel, training, inspections, fires and other department activities.

c. Reports. Current records and comparative data for previous years and recommendations for improving the effectiveness of the Department shall be included in an annual report. Such other reports as may be required concerning the department in general, giving suggestions and recommendations for major improvements, and listing other data so as to maintain a complete record of the activities of the department shall also be prepared.

SECTION 6. Equipment.

a. City Owned Equipment.

1. The Fire Chief shall be responsible to the Council for recommending such apparatus or other fire fighting equipment as may be required to maintain fire department efficiency, and for providing suitable arrangements and equipment for reporting fires or emergencies, and for notifying all members of the Department to assure prompt response to such incidents.

2. The Fire Chief or his authorized representative shall have power to assign equipment for response to calls for outside aid where agreements are in force and in other cases only when the absence of such equipment will not jeopardize protection of this City.

3. No person shall use any fire apparatus or equipment for any private purpose, nor shall any person willfully and without proper authority take away or conceal any article used in any way by the Department.

4. No person shall enter any place where fire apparatus is housed or handle apparatus or equipment belonging to the Department unless accompanied by, or having the special permission of, an officer or authorized member of the Department.

b. Private vehicles of Volunteers.

1. Insignia. Each member of the Department driving a private car shall be issued a suitable insignia to be attached to the car designating him as a member of the Department.

2. Blue Light. All personal cars of Department members shall be equipped with a flashing blue light and shall have right-of-away over all other traffic when responding to an alarm, but shall observe all City traffic ordinances.

PASSED AND APPROVED BY THE Council of the City of _____,

Alaska, the _____ *day of* _____, *19*____.

Sections may be added or deleted to suit the needs and desires of individual municipalities.

EXHIBIT 13

FIRE EQUIPMENT SUPPLIERS

Halprin Supply Co.
3804 South Broadway Place
Los Angeles, California 90037

Akron Brass Co.
Wooster, Ohio

W. S. Darley & Co.
2000 Anson Drive
Melrose Park, Illinois 60160

3M Fire Protection Systems
3934 Spenard Road
Anchorage, Alaska 99501
(907 279-6481)

D. G. O'Neil
85 W. Avondale Road
Hillsborough, California 94010

Badger Powhatan
P. O. Box 400
Ranson, West Virginia 25438
(304 725-9721)

Fire Control N. W. Inc.
13300 S. E. 30th Street
Bellevue, Washington 98004
(206 747-7300)

L. N. Curtis & Sons
2408 Third Avenue
Seattle, Washington 98121
(206 622-2875)

Fire Prevention of Alaska
Box 2581
Fairbanks, Alaska 99701

Fire Safe Inc.
5306 Arctic Blvd.
Anchorage, Alaska 99503
(907 279-3097)

Denali Services Inc.
5300 Elelson
Anchorage, Alaska 99503
(907 277-5594)

Fireguard Service Co.
2908 Commercial Drive
Anchorage, Alaska 99501
(907 274-1337)

Alaska Fire Protection Systems
P. O. Box 1031
Fairbanks, Alaska 99701

Fire Control of Alaska Inc.
P. O. Box 1414
Kenai, Alaska 99611

Alaska General Alarm
1117 Chugach Drive
Anchorage, Alaska 99501
(907 279-8511)

Liquid Air Inc
1624 Gambell
Anchorage, Alaska 99501
(907 272-6541)

Easteners & Fire Equipment Co.
130 W. International Airport Road
Anchorage, Alaska 99502
907 274-5932)

Young's Firehouse
1100 Dimond Blvd.
Anchorage, Alaska 99502
(907 344-5312)

STATE OF ALASKA
DEPARTMENT OF PUBLIC SAFETY
DIVISION OF FIRE PREVENTION

EXHIBIT 14

General Information for Securing Films
From the Fire Marshal's Office

REQUEST FOR SERVICE

Send your film requests to: Department of Public Safety
Division of Fire Prevention
Pouch 'N'
Juneau, Alaska 99811

Make requests well in advance.

Give second and third choices.

MAILING INFORMATION

1. Films will be sent to you prepaid parcel post.
2. Start the return shipment immediately after the scheduled showing, or by the date specified in our letter to you.
3. There is no charge for the use of films other than paying the return postage.
4. Use regular postage stamps when returning films. If you use air mail stamps, the films are sent air mail and we must pay the postage due, which is a considerable sum.

COMMENT SHEET

1. Fill out the comment sheet that is enclosed with the film.

CARE OF FILMS

1. If your projector is equipped with an automatic threader, follow the threading instructions carefully. Wrong feeding of film may result in "film-sprocket-hole" damage.
2. Never let an inexperienced person operate a projector. Most people can learn, but be sure they undergo a training period under a competent instructor before being allowed to operate the machine.
3. Keep your projector clean. Clean sprockets, gate, and sound head before every showing.
4. During projection, occasionally feel the film between the last sprocket and the take-up reel. If any damage is being done, it will be easy to find. Stop the machine at once and correct the fault. Listen to the sound of the machine during projection. Film damage usually causes more noise than normally can be heard.
5. Never run a sound film on a silent projector.

Revised March, 1976

DEPARTMENT OF PUBLIC SAFETY
DIVISION OF FIRE PREVENTION

FILM LIBRARY

No.	Film Title
1 A & B	Another Man's Family
2	Before They Happen
3	Blasting Caps
4	Cause For Alarm
5	Challenge, The
6	Code 101
7	Company Fire Prevention
8	Condemned
9	Disaster
10 A & B (Disney) ..	Donald's Fire Survival Plan
11	Fire Finders, The
12	Fire In My Kitchen
13 A & B	Fire In Town
14	Fire! Out Of Control
15 A.....	Fire-Sound The Alarm
16	Firefighting In The Kitchen
17	First Five Minutes
18	Flammable Liquid Fire Safety
19	Guilty
20	Have A Wonderful Evening
21 A & B (Swiss) ...	Help Prevent Fires
22	High Rise - Building Problems
23	Hot Cords Can Burn
24	Hot Stuff
25 (Disney)	How To Have An Accident In The Home
26 A.....(Disney)...	I'm No Fool With Fire
27	In A Fire Seconds Count
28	It's Up To You, Charley
29	It's Your Life
30 A & B	Know The Cause
31	Liquids Can Burn
32 A & B (British)..	Nature Of Fire
33	Our Obligation
34	Portable Fire Extinguishers
35	Portable Fire Extinguishers, The A,B,C & D's Of
36	Rx For Fire
37	Stop Fires - Save Jobs
38	Tin Pan Fire Drill
39	Too Young To Burn
40	Torch, The
41	Why?
42 A	Your Clothing Can Burn
43	Don't Get Burned
44	You and Yours
45 A.....	Learn Not To Burn
46	Exit Drill In The Home
47	EDITH (Exit Drills In The Home)
48	*Learn Not to Burn*

Revised March, 1976

DEPARTMENT OF PUBLIC SAFETY

DIVISION OF FIRE PREVENTION

FIRE PREVENTION FILMS

1 A&B ANOTHER MAN'S FAMILY: (25 minutes color) Received the "Best Safety Film of 1969" award from the National Committee on Films for Safety. It tells a dramatic story of an average family - father, mother, two young children, and a dog - which in a fashion recognizes the fire hazards in their home but seem unaware of the peril to their lives. The film's emotional impact guarantees that every viewer will think long and hard about his own attitudes and behavior.

2 BEFORE THEY HAPPEN: (15 minutes black & white) Shows in documentary fashion the large amount of routine inspection work that lies behind the safety of a large city.

3 BLASTING CAPS: (14 minutes color) Designed to warn the public, especially children, of the dangers of playing with blasting caps normally used with most explosives.

4 CAUSE FOR ALARM: (13 minutes black & white) Instructs worker on control of fires, how to turn in an alarm, how to meet emergency situations.

5 CHALLENGE, THE: (10 minutes black & white) Illustrates the crimes of carelessness causing most of the destructive fires which take an appalling toll in life and property; common sense preventive measures.

6 CODE 101: (20 minutes color) Evacuation and relocation of patients in hospitals, nursing homes, and mental care facilities. A manual is supplied with the film for training purposes. Includes horizontal and vertical evacuation, use of floor plan to predetermine means of egress, sequence of procedures in case of fire or other disaster, and the order and methods of moving patients, children and babies.

7 COMPANY FIRE PREVENTION: (22 minutes black & white) Acquaints fire personnel with procedures to be followed in a house-to-house fire prevention and inspection campaign.

8 CONDEMNED: (16 minutes color) An impressive home fire safety message, pointing out that 18 persons die in their homes every 24 hours; 63 homes are damaged by fire each hour of the day. The lessons are backed up by live-action shots of actual residential building fires, showing dramatic rescues, firefighting and the tragic results of carelessness with fire in the home.

9 DISASTER: (20 minutes black & white) Dramatic portrayal of problems faced by citizens when local disasters strike such as air crashes, railroad wrecks, severe weather, highway incidents, fuel storages and shipping.

Revised March, 1976

#10 A&B DONALD'S FIRE SURVIVAL PLAN: (11 minutes color [Disney Production]) Every day, over 1,500 homes burn...Every day, about 18 lives are lost in fires...1/3 of those lost are children!

Shocked by these grisly facts Walt Disney, in association with national and local fire service authorities, now proves something can be done to avoid this needless tragic loss of life.

Disney and his staff have mustered all of their creative guns to prove when a fire occurs what you do in the first few minutes can mean the difference between life and death.

This vital film, suitable for all ages, is a highly effective teaching aid for Fire Departments, P.T.A.'s, Insurance Companies, Industrial organizations and all other groups who are concerned with fire safety.

#11 FIRE FINDERS, THE: (10 minutes color) Film explaining the various types of automatic fire detectors and illustrating on a film the fire conditions under which each type of automatic fire detector operates.

#12 FIRE IN MY KITCHEN: (12 minutes color) This feature deals with problems encountered by many housewives. It demonstrates the measures the housewife herself can safely take to cope with a top-of-the-range or oven fire, gives guidance on wastebasket fires, overloaded circuits, grease accumulations, clothing fire hazards around the range and the correct way to call the Fire Department.

#13 A&B FIRE IN TOWN: (26 minutes color) Practical community fire prevention program is sparked by a local newspaper editor after the fiery death of two small children. Stresses importance of community cooperation and united action in development of effective fire prevention progress by an efficient volunteer Fire Department.

#14 FIRE! OUT OF CONTROL: (13 minutes color) The story of a plant that was destroyed because of human failure. The plant emergency organization was not adequately trained or fully manned. Several mistakes were made when a second fire rekindled after an initial small fire had been extinguished by a single sprinkler. Dramatic fire scenes illustrates the progress of the fire.

#15 FIRE SOUND THE ALARM: (15 minutes color) The importance of calling the fire department early and the chaos which is created when this instruction is not obeyed, is presented here in an interesting and factual manner. Actual cases are shown, with people acting first incorrectly and then correctly with corresponding results.

#16 FIREFIGHTING IN THE KITCHEN: (5 minutes black & white) Shows how to cope with small fires that may occur while you are cooking.

#17 FIRST FIVE MINUTES: (25 minutes black & white) Importance of industrial fire brigades in plant fire protection. Shows how brigade members can locate plant fire hazards, what precautions to take to prevent fire and what to do if fire strikes.

#18 FLAMMABLE LIQUID FIRE SAFETY: (20 minutes color) The fireburst of a 40-gallon drum of gasoline speaks a thousand words of caution every second it's on the screen. Through unique visualization of the characteristics of flammable liquids, the employee can see for himself how hazardous situations develop and clearly understand why he is urged to follow prescribed safety methods.

#19 GUILTY: (15 minutes color) An excellent film concerning the legal action which can result when negligence by private citizens results in fire damage. Three factual court cases are dramatized: 1. Criminal - investigation for cause of fire. 2. Civil - liability for damage to property of others. 3. Juvenile - responsibility for damage caused by children playing with matches. Primary to adult useage.

#20 HAVE A WONDERFUL EVENING: (16 minutes color) Winner of Award of Merit. A must for all baby-sitters and parents. Their guide to life-protecting fire safety measures.

#21 A&B HELP PREVENT FIRES: (12 minutes color) Produced in Switzerland, this film is a masterpiece of cleverly animated objects of everyday use around the house (electric iron, pots and pans, cigarettes, etc.), showing the wrong way and right way to handle them. No people are used. The few words spoken are in French, which adds a delightful touch to the film although no words are needed to get the message.

#22 HIGH RISE - BUILDING PROBLEMS: (17 minutes color) A training and awareness film dealing with the high rise building and the problems which will be incurred should a fire occur.

#23 HOT CORDS CAN BURN: (10 1/2 minutes color) Delivers an important message on a home fire safety problem - the misuse of electrical extension cords. Cast in story form, it gives a clear explanation of when and how extension cords should be used, pointing out they are not substitutes for permanent wiring. It shows types needed for special applications and demonstrates what can happen with improper care and maintenance.

#24 HOT STUFF: (9 minutes color) This is a cartoon film with a strong and definite message...that fire must always be man's servant and not his master. Here it seems the gods goof when they give fire to man. Should it have been given to women? The story starts right back at the beginning of creation, rearranging the details a bit to suit the point of the film. Creation is not in a green garden, but on an icy mountain top. Heat, in the form of fire was given but man failed to heed the warning "Be careful". Right down to the present day, man's carelessness is shown. The smouldering cigarette, the overloaded circuit, etc., all point to the need to handle fire with extreme care.

#25 HOW TO HAVE AN ACCIDENT IN THE HOME: (8 minutes color [Disney Production]) This, Walt Disney film has a segment pertaining to leaving lighted cigarettes on an ashtray, and an iron unattended on an ironing board and other fire hazards which have proven very helpful to other fire departments to be used as a tool in conjunction with their fire prevention programs.

#26 I'M NO FOOL WITH FIRE: (8 minutes color [Disney Production]) The histroy of fire is shown from the days of the caveman to modern man with his present day inventions. Showing that fire can be an enemy as well as a friend, the film points out fire hazards, such as: unscreened fireplaces, overloaded sockets, oily rags and papers, highly flammable liquids and careless use of matches. A contest is held between a Common Ordinary Fool and Y-O-U, and the winner is presented with a badge of intelligence. This is a fast-moving cartoon full of humor and lively music. The proper use of fire is taught in an entertaining way. For all ages.

#27 IN A FIRE SECONDS COUNT: (24 minutes color) A dramatic presentation on the vital importance of escape planning in the home, the film tells the story of an average family in an average home, and a near-tragedy when a young guest was visiting. Provides strong motivation for families to make and rehearse their own escape plans.

#28 IT'S UP TO YOU, CHARLEY: (18 minutes color) This film shows employees that they, as well as management have a stake in the safety of their plant. And it shows them the importance of the emergency organization and property conservation. It is a humorous story about two cousins, Charley and Bertram, who live in the same town, but have jobs at different plants. Charley's company transmits its concern for loss prevention through an efficient training program. Bertram's plant lacks interest, and through his carelessness a disastrous fire occurs.

#29 IT'S YOUR LIFE: (11 minutes color) An imaginative blending of picture, music and sound effects vividly portraying a new and creative approach to fire prevention, a film drama without words. A sensitive story of a happy boy and his dog who become victims of fire, interwoven with a series of vignettes depicting disasters caused by smoking in bed, using flammable hair spray and other more familiar fire hazards.

#30 A&B KNOW THE CAUSE: (34 minutes black & white) Stresses the importance of knowing how fires start; obvious causes, unnatural causes, types of incendiarists, criminal agents, evidence recognition of suspicious persons, and how, what, and when to look for arson evidence is discussed in detail.

#31 LIQUIDS CAN BURN: (12 minutes color) Describes with interesting demonstrations the types of flammable liquids that look like water but are so different and powerful. Stresses the various temperatures at which each reaches the flashpoint; that they are thinner than air; that they turn into vapors which cannot be detected by smell. Important rules for the handling of these liquids completes an excellent portrayal of what the flammable liquids are all about.

#32 A&B NATURE OF FIRE, THE: (19 minutes color) Made in Britain - provides basic facts about the nature of fire and its control. Behind the film is the idea that if people know what fire is they will more readily know how to avoid the acts which lead to fire. Principally designed for educational use among a wide range of audiences. Including factory staff, those attending trade association and similar conferences, technical college students, and older school children. Suitable for viewing by the general public.

#33 OUR OBLIGATION: (26 minutes color) Dramatic story of two children in school where fire breaks out. Older brother tries to rescue his younger sister; he and his teacher lose their lives. A must for boards of education and P.T.A. groups.

#34 PORTABLE FIRE EXTINGUISHERS: (25 minutes color) This film was produced by Iowa State University of Science and Technology, Ames, Iowa. Explains the different types of extinguishers that are available and where and how to use them. A really good film on fire extinguishers.

#35 PORTABLE FIRE EXTINGUISHERS, THE A,B,C & D'S OF: (26 minutes color) A step-by-step of how to operate and how to use portable fire extinguishers and how they work. The film describes what is in extinguishers and how it works. It shows, using typical industrial backgrounds, what extinguishers should be used on the various kinds of fires and how they should be applied.

#36 RX FOR FIRE: (19 minutes color) This film teaches fire prevention and good housekeeping; value of emergency planning; elimination of hospital fire hazards; and operation of extinguishing equipment. This film can be a valuable teaching aid in your year-round safety training program for hospital staff and volunteers.

#37 STOP FIRES-SAVE JOBS: (18 minutes black & white) Industrial fires can be stopped if employees know how they start and how to report them. Good for employee training. Encourages an alert attitude toward fire, how to recognize common hazards; stress is on the fact that fire is an enemy of jobs.

#38 TIN PAN FIRE DRILL: (15 minutes color) Organization of a home fire drill with the help of a firefighter. Can be used to stimulate interest in proper planning of home fire drills.

#39 TOO YOUNG TO BURN: (27 minutes color) Film explains to parents how they can correctly teach fire safety to their preschool children.

#40 TORCH, THE: (10 minutes color) Unusual new cartoon to show there is just a bit of human carelessness in all of us.

#41 WHY?: (25 minutes color) Shows actual scenes of rescue and firefighting operations at Chicago's parochial school fire in which 94 pupils and teachers died on December 1, 1958. Highly effective message on school fire safety.

#42 YOUR CLOTHING CAN BURN: (13 minutes color) Produced by Alfred Higgins in cooperation with the N.F.P.A. Committee on Wearing Apparel, the film tells which fabrics are safest, which are easily ignited, common causes of clothing fires and how they can be prevented, and what to do if clothing catches fire.

#43 DON'T GET BURNED: (20 minutes, color/sound) Shows key fire prevention rules and points out fire hazards and how to eliminate them. Includes important rules to remember if you are ever caught in a fire and how to plan a family escape route from your home.

#44 YOU AND YOURS: (20 minutes, color/sound) The film tells about burns and clothing fires - how to prevent them and what to do if they occur. What the baby sitter should know about handling a fire emergency. Home fire detection systems, fire extinguishers and what to do and how to use them should fire strike. Discusses common fire hazards and how to recognize them in your home and eliminate them.

#45 LEARN NOT TO BURN: (6 minutes, color/sound) Dick Van Dyke points out fire hazards, throughout your home, that might injure you or your family. Offers fire prevention tips.

#46 EXIT DRILL IN THE HOME: Every year 2,000,000 Americans are burned as a result of accidents and at least 250,000 of these are children. The Shriners Burn Institute has produced a color, 20-slide, film pack with script for use in instructing elementary age school children on how to escape from a burning building. The slides depict people as ants which has an appeal to small children.

#47 EDITH (Exit Drills In The Home): (13 Minutes, Color/Sound) A vivid, realistic portrayal of fire in the home and how to survive it. The film shows: Hours of danger, fire situations, fire behavior, smoke---the killer, types of dwellings, confusion of occupants, escape devices, pre-planning, practicing and executing the escape, protecting the young, old and helpless, rescue signs, installation and operation of smoke detectors and fire fighting procedures.

Films available through the U.S. Department of Labor, Federal Safety Advisory Council:

Emergency First Aid Rescue: U.S. Atomic Energy Commission

Film, color, 12 minutes. Obtain from:
Idaho Operations Office, Office of Information
U.S. Atomic Energy Commission, P.O. Box 2108
Idaho Falls, Idaho 83401

Automatic Sprinkler System Operation: National Aeronautics and Space Administration

Film, 16mm., Black and White, 30 minutes. Available on loan, free of charge (Except for mailing costs) from the nine N.A.S.A. Film loaning facilities throughout the **United States.** (Address given at end of film lists.)

Chemistry of Fire: N.A.S.A.

Film, Parts I and II, 30 minutes each. Obtain from:
*** Safety Training Coordinator, N.A.S.A.
Lewis Research Center
21000 Brookpark Road, Cleveland, Ohio 44135

Engineering Early Warning--Fire Detection: N.A.S.A.,

16mm., Black and White, Sound, 23 minutes. Available on loan, free of charge, (except for mailing costs) from the nine N.A.S.A. film loaning facilities throughout the U.S.

Fire and Safety Subjects: Veterans' Administration

Color slides. Obtain from: Safety Officer, Veterans' Administration Center
Hot Springs, South Dakota 57747

Fire Extinguishers; Preventing Fire, Static Sparks and Flammable Liquids: N.A.S.A.

Flip chart presentations. Obtain from: (See above *** address)

Fire Fighters: N.A.S.A.

Film, 20 minutes. Obtain from: (See above *** address)

Fire Prevention, Use of First Aid Extinguishers and Emergency Removal of Patients:

Veterans' Administration
Videotaped demonstration, 45 minutes. Available free on loan. Obtain from:
Chief, Engineering Division,
Veterans' Administration
Prescott, Arizona 86301

How to Fight Fires: N.A.S.A.

35mm., sound-on-slide system. Obtain from: Safety Officer, Langley Research Center
Hampton, Virginia 23365

Mock Disaster: N.A.S.A

35mm., slide presentation. Obtain from: (See above *** address)

N.A.S.A. Philosophy on Fire Safety: N.A.S.A.

16mm., black and white, sound, 14 minutes. Available on loan, free of charge (except

Film list cont.:

for mailing costs) from the nine N.A.S.A. film loaning facilities throughout the U.S.

Rescue Breathing: Panama Canal Company

Film 22 minutes. Part of demonstration with Resusi-Anne, Fracture Board and Handouts. Obtain from: Fire Division Administrative Assistant
Room 105, Civil Affairs Building
Ancon, Canal Zone

The Facts of Fire: N.A.S.A.

35mm., slide presentation. Obtain from: (See above *** address)

Winter Truck Driving: U.S. Department of Transportation

16mm., color, sound, 19 minutes. Free but borrower must pay return transportation charges. Obtain from: Photographic Section, Federal Highway Administration
U.S. Department of Transporation
Washington, D.C. 20591

What About Winter Driving?: U.S. Department of Transportation

16mm., color, sound, 13 minutes. Free but borrower must pay return transportation charges. Obtain from: Photographic Section, Federal Highway Administration
U.S. Department of Transportation
Washington, D.C. 20591

National Aeronautics and Space Administration: Regional Film Libraries

Alaska* N.A.S.A. Ames Research Center
Public Affairs Office
Moffett Field, California 94035

*Alaska Requesters may also obtain N.A.S.A. films from Department of Audio-Visual Education, University of Alaska, College, Alaska 99701

The above films are not available from the Fire Marshals Office, but may be obtained from the addresses noted.

EXHIBIT 15

STATE OF ALASKA
DEPARTMENT OF EDUCATION
FIRE SERVICE TRAINING PROGRAM
JUNEAU, ALASKA

FIRE SERVICE TRAINING AUDIO-VISUAL LIBRARY

DEPARTMENT OF EDUCATION
Marshall L. Lind, Commissioner

FIRE SERVICE TRAINING PROGRAM
William A. Hagevig, Supervisor

REVISED 1 July 1976

FOREWORD

It has been said that one picture is worth a thousand words. Modern methods and techniques of instruction acknowledge the truth of this adage and the use of audio-visual training aids has become commonplace in instructional programs of all types.

The purpose of the Fire Service Training Audio-Visual Lending Library is to make available films, slides, overhead transparencies and publications of all types, the cost of which would be prohibitive for the average fire department. They are available to be incorporated into your firefighter training program. We caution you, however, that the film or slide cannot of itself train your firefighters.

A drill or class for which nothing has been planned beyond the showing of a film will prove to be a waste of time for your fire department and the men and women in it. Your training program will fail to be effective and your personnel will not reach the high level of proficiency required by modern firefighting standards.

With practice comes proficiency. Plan your training program around the "see and do" approach. Classroom time is valuable only if it is followed by practical application of the points made during lectures or film showings. Constant repetition of those physical skills associated with fireground operations are mandatory if firefighters are to be able to perform them safely and efficiently under adverse emergency conditions.

William A. Hagevig, Supervisor
Fire Service Training Program

Alaska Department of Education
Division of Vocational and Adult Education
Fire Service Training Program
Juneau, Alaska

Instructional Materials Lending Library Procedures

Request for Materials:

Publications and Audio-Visual Aids requests should be sent to:

Supervisor, Fire Service Training
Division of Educational Program Support
Pouch 'F'
Juneau, Alaska 99811

Phone: 465-2994

Requests must be received in Juneau two weeks prior to showing date.

Include second and third choice where possible.

Mailing Information

1. Films will be sent to you prepaid parcel post.
2. Start the return shipment immediately after the scheduled showing.
3. There is no charge for the use of films other than paying the return postage.
4. Use regular postage stamps when returning films. If you use air mail stamps, the films are sent air mail and we must pay the postage due, which is a considerable sum.
5. Return address labels will be included with your film. Please use this when mailing films back to us.
6. Do not send publications or audio-visuals to other fire departments unless specifically requested to do so. This disrupts our scheduling process.

General Information:

1. Fill out and return the attendance record enclosed with each film. Names of viewers should be printed.
2. If the film is damaged do not repair it. Tape a conspicuous damage notice on the film can giving the nature and location of the damage.

3. Projectors should be run only by experienced operators.

4. If your projector is not in first class condition do not run the film. Damage to expensive training films is costly to repair and results in delay in filling other requests.

5. Do not run sound films on silent projectors.

6. Do not write on overhead transparencies. If you wish to write, use an overlay of x-ray film or clear acetate.

7. Count transparencies to be sure all are in the box before mailing to Juneau.

8. RETURN AUDIO-VISUALS PROMPTLY. OTHERS ARE WAITING.

Alaska Department of Education
Adult & Manpower Programs
Fire Service Training
Pouch F
Juneau, Alaska

FIRE SERVICE TRAINING FILM LIBRARY

FILM NO.	TITLE	DESCRIPTION
1	BLANKET FOR SURVIVAL	22 Min. color. Demonstrates successful technique for combating major aircraft fires based on blanketing the fire area with foam
2	BREATHING APPARATUS	20 Min. B&W. Older LAPD training film edited to cover self-contained, demand-type breathing apparatus. Good for basic information.
3	SELF-CONTAINED RESPIRATORY PROTECTION	15 Min. approx. color. New Scott film covering use and care of Scott Self-contained breathing apparatus.
4	THE NATURE OF FIRE	19 Min. color. British film. Basic facts about fire behavior. Covers most portable fire extinguishers. Excellent basic film for all audiences.
5	FIRE SAFETY - HALL OF FLAME	15 Min. color. Juvenile fire prevention film covering basic fire safety for children. Good for ages 3-10.
6	ANALYSIS OF A BULK PLANT FIRE	25 Min. B&W. Features actual newsreel footage of famous Kansas City bulk plant fire which claimed the lives of several firefighters.
7	FIGHTING FIRES ABOARD TANKERS	28 Min. color. Equipment and methods used in fighting fires of all classes aboard tank vessels. Shows hazard areas and how they are protected. USCG film.
8	FIGHTING TANK FIRES WITH WATER	25 Min. color. Shows actual company attack on large oil tank fires, how to position crew, choose nozzle size, lay lines, etc.

9	GROUND SPILL PETROLEUM FIRES	15 Min. color. Discusses and demonstrates special safety precautions to be observed and the recommended procedures for fire control and extinguishment, including application of water fog and surfactants on flammable liquids spill fires.
10	LIGHT WATER TRAINING FILM	15 Min. color. Training techniques in the use and application of light water (AFFF). Factual film by 3M Corporation.
11	LOADING TERMINAL FIRES	15 Min. color. Control and extinguishment of fires involving loading racks, terminals, and transport equipment.
12	LP GAS FIRE CONTROL	11 Min. color. On-the-scene report illustrating how pre-planning helped one fire department control and extinguish a dangerous LP gas truck fire.
13	NATURAL GAS FIRES AND THEIR CONTROL	20 Min. color. Correct techniques for extinguishing fires involving natural gas facilities and equipment.
14	"IT CAN'T HAPPEN HERE"	15 Min. color. Skagway Regional Oil Fire Control School. Relates flammable liquids fire suppression training to local community fire protection requirements. Good for public PR or basic firefighter orientation to flammable liquids firefighting.
15	TANK VEHICLE FIREFIGHTING	25 Min. color. Illustrates and demonstrates proper procedures for handling fires involving flammable liquids transport vehicles.
16	CHLORINE AND THE FIREFIGHTER	29 Min. color. Teaches firefighters and emergency personnel the hazards, problems, properties and solutions in handling chlorine gas under various emergency situations. Shows kits and procedures for handling leaking or damaged chlorine cylinders.
17	CARE AND MAINTENANCE OF FIRE HOSE	21 Min. B&W. Introduces new firefighter to basic principles of fire hose care and maintenance. An older film but adequately covers basic subject requirements.

18	HOSE LAYS WITH TRIPLE COMBINATION PUMPERS	32 Min. B&W. Demonstrates basic hose evolutions from a triple combination pumper. Obsolete but useful still in training recruits.
19	AERIAL LADDERS	30 Min. color. Shows proper use of service aerial ladder, tractor type aerial ladder, telescoping boom and aerial platforms.
20	EXTENSION LADDER OPERATIONS	10 Min. color. Step-by-step training program showing the raising and lowering of 20', 24', and 35' extension ladders. Includes removal, placement, raising, lowering, and return to apparatus.
21	GROUND LADDERS	30 Min. color. Classic film for training firefighters in the correct handling and use of various types of ground ladders.
22	PORTABLE FIRE EXTINGUISHERS	25 Min. color. Explains basic classification of fire, the various types of portable fire extinguishers, and their use on actual fires.
23	PUMPER OPERATOR	26 Min. color. Shows best usage and maintenance of pumper apparatus. Shows how apparatus is placed in service, how men are trained to use it.
24	A TALE OF TWO TOWNS	19 Min. color. Compares salvage operations of two different fire departments showing how modern, efficient procedures minimize fire damage and promote better public relations.
25	SALVAGE	10 Min. color. Illustrates methods of using salvage covers for protection of contents in buildings. Also describes making of catch basins and chutes for routing water out of building.
26	HELPING SPRINKLERS HELP YOU	20 Min. color. Shows necessity of inspections and study required by firefighters to handle fires involving sprinkler systems.

27	MAINTENANCE AND OPERATION OF AUTOMATIC SPRINKLER SYSTEMS	25 Min. color. Explains the importance of automatic sprinkler systems in fire control. Demonstrates inspection and maintenance procedures common to all systems.
28	COMPANY RESPONSE	12 Min. B&W. Emphasizes the necessity for planning by Company Officers before fire strikes.
29	COORDINATED FIRE ATTACK	20 Min. color. Designed to give firefighters and fire officers a better understanding of fire behavior in structures.
30	FIREFIGHTING STRATEGY	24 Min. color. For training fire service personnel in the basics of fireground planning, size-up, rescue, ventilation, exposure protection, extinguishment, salvage and overhaul. New and highly recommended.
31	STRUCTURAL FIRES	31 Min. B&W. Graphically depicts standard operations of fire extinguishment in buildings. Old but contains much useful information.
32	VENTILATION (LAPD)	25 Min. B&W. How, why, where and when to ventilate at fires. Actual fire scenes. Older film but contains much useful information.
33	VENTILATION (NFPA)	27 Min. color. Shows use of forcible entry equipment, proper use of hose streams for ventilation, and theory of fire spread. Includes both practical demonstration and blackboard discussion of ventilating techniques. New film.
34	GETTING THE MOST OUT OF WATER	20 Min. color. Use of water fog in fire extinguishment. Theory of heat absorption power of water. Shows various types of nozzles including large capacity nozzles for master stream appliances.

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35	THE NOZZLEMAN	20 Min. color. Techniques in handling fire fighting hose nozzles and methods of applying water to structural fires in most efficient manner. Stresses direct, indirect, and combination attack procedures. Excellent for use with "Coordinated Fire Attack".
36	USING WATER WISELY	27 Min. color. Shows firefighting methods on small fires, using hand line spray nozzles on 1 1/2 in. hose lines. Scenes from test fires in several mid-western town and cities.
37	WHERE'S THE WATER	14.5 Min. color. Deals with basic characteristics of water and examines friction loss, head, velocity, pressure, and water hammer. Concepts illustrated by animation. Application is demonstrated by actual firefighting scenes.
38	DESIGN FOR DISASTER	25 Min. color. The Los Angeles Fire Department's filmed story of the Bel-Air conflagration of 1961 in which thousands of firefighters were engaged in combating one of the nation's worst wildland fires.
39	ARCTIC FIRE PROTECTION	16 Min. color. Portrays Alaskan Air Command's fire protection program and calls attention to the many problems encountered because of sub-zero temperatures. F lmed at Eielson AFB.
40	FIREFIGHTER	19 Min. color. Film document of a city fire department, its training and devotion to duty. Obsolete, of general interest only.
41	TRAIN WE MUST	20 Min. B&W. Older training film for volunteer fire departments which shows what a comprehensive training schedule should include.
42	YOUR FIRE DEPARTMENT	32 Min. color. How a fire department is organized, trained, financed, and operated. Describes apparatus and equipment used by urban fire department. Obsolete, and of limited application in Alaska.

43	FIREFIGHTER	20 Min. color. A new film excellent for orientation of the new firefighter or for use as a public PR film.
44	THE NOBLE BREED	20 Min. B&W. Older orientation or PR film. Deals with life and careers in the fire service.
45	WHERE THERE'S SMOKE	10 Min. color. Short film introduction to breathing apparatus. Shows several new experimental types of apparatus.
46	BLEVE	19 Min. color. NFPA film dealing with hazards of boiling liquid expanding vapor explosions associated with flame impingement on pressure vessels containing flammable liquids and gases.
47	CHEMISTRY OF PETROLEUM FIRES	35 Min. color. Discusses basic chemistry of flammable liquids and gases and the relation to fire cause and behavior. A must for flammable liquids firefighting classes.
48	COLLISION RESCUE	15 Min.color. Excellent new film dealing with auto extrication and vehicle rescue procedures.
49	THE EASY WAY OUT	20 Min. color. Uses laboratory demonstrations to describe types and characteristics of firefighting foam. Shows how to fight fires with foam applications.
50	FIREHOSE	26 Min. color. Describes types of hose and fittings, construction maintenance and care, hose lays, carries, packing, and advancing hose under various conditions. Basic training film.
51	THOSE VITAL FIRST MINUTES	23 Min. color. Demonstrates the advantages of planning and training in the handling of incidents involving hazardous materials.
52	USE & CARE OF ROPE	20 Min. B&W. Explains how to care for, inspect and use fibre rope. Compares sisal, manila and jute; and shows methods of splicing and eyeing.
53	CONFLAGRATION	28 Min. color. Scenes from the fire which destroyed one fourth of the city of Chelsea, Mass. before being brought under control.
54	THOUGH THE EARTH BE MOVED - THE ALASKA EARTHQUAKE	45 Min. B&W. The 1964 Good Friday earthquake struck Alaska with a force equal to 10 million atomic bombs of the size that destroyed Hiroshima. Good disaster training film.

55	FUEL PRESSURE FIRES	15 Min. color. This film covers safety regulations and the importance of teamwork in the extinguishment of fuel pressure
56	LIQUIFIED PETROLEUM GAS FIRES	15 Min. color. Covers safety precautions and demonstrates the proper techniques for controlling and extinguishing LPG fires.
57	COORDINATED STRUCTURAL FIRE ATTACK	15 Min. color. Discusses hazards and safety precautions and outlines the recommended procedure of attacking structural fires.
58	FIRES AND WIRES	25 Min. color. Provides firefighter with safety knowhow which can help him and the public avoid serious injury or death from electrical hazards at accident scenes.

EXHIBIT 16

LAWS OF ALASKA

1975

Source	Chapter No.
HCSSB 119	148

AN ACT

Relating to smoke detection devices; and providing for an effective date.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*Section 1. AS 18.70 is amended by adding a new section to read:

Sec. 18.70.095. SMOKE DETECTION DEVICES. Smoke detection devices shall be installed in all living units built, manufactured or sold in the state. The devices shall be of a type and deployed in a manner approved by the state fire marshal.

*Section 2. This Act takes effect January 1, 1976.

Approved by governor: June 14, 1975
Actual effective date: January 1, 1976

DEPARTMENT OF PUBLIC SAFETY

DIVISION OF FIRE PREVENTION

The NATIONAL FIRE PROTECTION ASSOCIATIONS Standard 74-1974 is being adopted for the enforcement of Alaska Statute 18.70.095. Only those sections pertinent to smoke detectors apply.

Following is a list of guidelines from this standard as it applies to smoke detectors.

This standard is primarily concerned with life protection, not with protection of property. It contemplates that the family has an exit plan.

A smoke detector is defined as a device which detects visible or invisible particles of combustion.

A smoke detector approved by the State Fire Marshal shall be one which is approved by Underwriters Laboratories, Inc., Underwriters Laboratories of Canada, Inc., or Factory Mutual Research Corporation.

An AC primary power source shall be utilized for detectors in all new construction. In existing households, AC primary power is preferred. However, when such is not practical, a monitored battery primary power source is permitted.

Each smoke detector shall cause the operation of an alarm which shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed. The tests of audibility level shall be conducted with all household equipment, which may be in operation at night, in full operation.

Smoke detectors installed to protect sleeping areas shall be located outside of the bedrooms but in the immediate vicinity of the sleeping areas.

Smoke detectors shall be located on or near the ceiling.

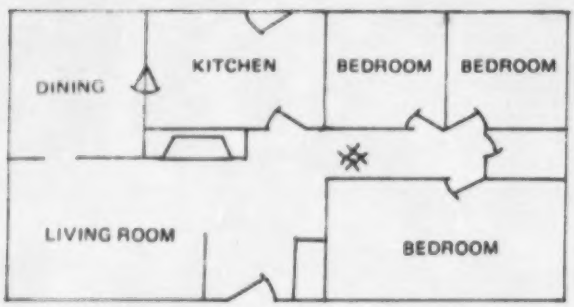
If batteries are used as a source of energy they shall be replaced in accordance with the recommendations of the alarm equipment manufacturers.

INFORMATION

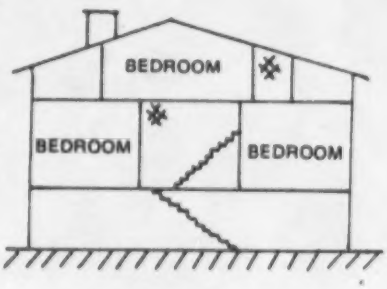
Planning and practicing for fire conditions with accent on rapid exit from a living unit are important. Drills should be held so that all family members know what to do. Each person should plan for the possibility that exit out of a bedroom window may be necessary. An exit out of the living unit without requiring the opening of a bedroom door is essential.

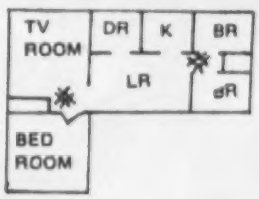
INSTALLATION

Smoke detectors required by this regulation are intended to provide only the minimum level of protection. They shall be installed to protect each sleeping area and at the head of each stairway to occupied areas. Examples:



A basic smoke detector (indicated by cross) shall be located between the sleeping area and the rest of the house.





In homes with more than one sleeping area, a smoke detector (indicated by cross) should be provided to protect each.

Any apartment building sold, built or manufactured after January 1, 1976 which is over three stories in height or contains more than 12 units, shall be equipped with a complete supervised smoke detection system.